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CHAPTER I

INTRODUCTION

Each year hundreds of girls leave their homes and communities and register in the colleges and universities throughout the nation. Some of these girls remain in college for four years and are graduated while others withdraw along the way for various reasons. An interest in the causes of their success or failure led the writer to study a particular group to determine the factors that may influence persistence in college and to find the relationship of certain background factors to college success and the relationship of freshman standardized tests to college success.

The group selected entered Woman's College of the University of North Carolina in the fall of 1943. Woman's College, an integral part of the Consolidated University of North Carolina, is located in Greensboro, North Carolina. It is a liberal arts college granting seven undergraduate degrees:

Bachelor of Arts, Bachelor of Science in Home Economics, Bachelor of Science in Music, Bachelor of Science in Physical Education, Bachelor of Science in Business Education and Secretarial Administration, Bachelor of Science in Nursing, and Bachelor of Fine Arts.¹

Graduate degrees in Business Education and Secretarial Administration, Elementary Education, and Home Economics are also granted. The college, with a faculty of more than 250 and a student body of more than 2,200, is

1. Woman's College of the University of North Carolina, Bulletin, Catalogue Issue for the Year 1946-1947, Vol. XXXVI, No. 3. Greensboro, North Carolina: The College, April 1947. p. 32.

one of the largest colleges for women in the country.²

Purpose and Importance

The purpose of this study is to find the relationship between background factors and college success and between freshman tests and college success, as measured by quality-point ratios, and to determine the factors that influence persistence in college.

Quality-point ratios, the measure of success used in this study, were found by dividing quality points for each girl by her semester hours' credit. According to Woman's College grading scale, the grade of A carries with it 4 quality points for each semester hour's credit; B, 3; C, 2; and D, 1.

The beginning class was divided for this study into two groups: those who were graduated and those who withdrew. In studying the graduating group, the writer attempts to find the answers to the following questions:

1. Which background factors have an association with quality-point ratios for the four years, first two years, and last two years of college work?
2. What relationship exists between each of the three freshman standardized tests and the quality-point ratios for the four years, the first two years, and the last two years?
3. Are there any marked differences in the background factors of the girls who choose the different departmental majors?
4. What relationship do the freshman tests have with the quality-point ratios for the last two years for the girls within different departments?
5. Does association of background factors and quality-point

2. Loc. cit.

ratios for the last two years differ appreciably for Bachelor of Arts students and for the Bachelor of Science students.

For the drop-out group, answers are sought for the following questions:

1. What are the reasons for withdrawal from school?
2. Are there any apparent differences when the background factors of the drop-outs are compared with those of the students in the graduating group?
3. How do the test scores of the drop-out group compare with those of the graduating group?

The real importance of this study will be determined by the use that is made of the findings presented. The findings will show Woman's College the type of student she has and some possible uses that may be made of the freshman tests for guidance purposes. The information presented may be helpful to the high schools which furnish students for the freshman class. For the sake of comparison, certain other colleges in North Carolina and in other states may be interested in the success of the members of the class in this study and may be able to make application of the findings to their own institutions.

Pope, after studying the women in six coeducational colleges which had a total of 629 freshmen in 1925, states that "the liberal arts college is spending nearly 50 per cent of its varied and total resources on students who will not be graduated; the withdrawal of the majority of these students may be capable of prediction."³ If Woman's College can find some

3. Ruth Vesta Pope, Factors Affecting the Elimination of Women Students From Selected Coeducational Colleges of Liberal Arts. Teachers College, Columbia University, Contributions to Education, No. 485. New York: Bureau of Publications, Teachers College, Columbia University, 1931. p. 100.

means of predicting which students will withdraw because of academic difficulties, she can save money for the taxpayers and parents and embarrassment and worry for those students.

Stalnaker in her study of 437 students who entered West Virginia University in 1935 reports that from her data she "would not be justified in telling any student with a low intelligence test score that he would not be able to graduate from West Virginia University because, in spite of low intelligence test scores, some do graduate."⁴

Leaf states that many studies have been made to find a relationship between students' marks in college and their marks in high school and scores on various tests in order to obtain criteria for prediction of a student's achievement in college.⁵ From these, he observes that

The studies have shown definitely that it is impossible to foretell the scholastic achievement of all the students in a given group, and that many cases of success or failure cannot be discovered until the student has tried to do college work. However, it would be advantageous to both the student and the college to determine as accurately as possible beforehand⁶ the student's prospects for success or failure in college work.

Selection and Definition of the Group

For the purpose of this study, the writer selected the group of students who entered the Woman's College of the University of North Carolina in the fall of 1943 and who either were graduated four years

4. Elizabeth M. Stalnaker, "A Four Year Study of the Freshman Class of 1935 at the West Virginia University," The Journal of Educational Research, 36:117, October 1942.

5. Curtis T. Leaf, "Prediction of College Marks," Journal of Experimental Education, 8:303, March 1940.

6. Loc. cit.

later or who withdrew before graduation. This class was chosen as being typical in that it was the most recent graduating class and that it is probably like the two or three classes which follow it.

Although the class entered during World War II, the students were graduated in peace times, two years after the war ceased. There was no great influx of veterans to cause unusual situations on the campus. When the reasons for withdrawal are analyzed closely, it seems that the war had little influence in causing those girls who withdrew to leave school.

The size of the student body and of the graduating class for the last few years has remained practically the same. Apparently there were no unusual or extreme factors at work to make the class selected different from other recent graduating classes or from graduating classes that may be expected in the next few years.

Graduating Group

Of the 646 girls who registered together as freshmen in 1943, 331⁷ were graduated in June 1947. Five members of the graduating class were omitted from this study because of lack of information about the standardized tests which they were given as freshmen. Five additional girls were excluded from the study because of irregularities in their college programs which took them to other schools for a part of their work, and the grades and quality points for the work done elsewhere were not shown on their records with their credits. Therefore, any further mention of the graduating group in this study will include 321 girls.

7. The June 1947 graduating class of 412 included 331 of the original class, 69 transfers, 6 who entered with other classes, and 6 whose diplomas were dated 1946.

Transfers.--During the four years, 87 transfers were accepted from other colleges as members of this class. Sixty-nine of this number were graduated, while 18 withdrew. These students were not included in this study because they did not take the tests with the beginning class and because the quality points for their credit in other schools were not recorded in the same way as the quality points for the credit they earned at Woman's College. Thus, their records were incomparable to the other members of the class.

Departmental Majors.--Of the 321 girls in the graduating group, 194 chose one of sixteen major subjects leading to graduation with the degree of Bachelor of Arts. The remaining 127 chose major subjects leading to the four Bachelor of Science degrees. In terms of percentages, 60 per cent of the class received A. B. degrees, and 40 per cent received B. S. degrees. The numbers within each department are given in Table I.

The A. B. department having the largest number of majors was sociology with 39 girls, followed by English with 23. The B. S. department having the largest number of majors within the graduating group was secretarial administration with 63, followed by home economics with 38. Although 64 girls received B. S. degrees in Home Economics in 1947, the number for this study was reduced to 38. Of the 64 girls, 21 were transfers from other schools; 4 had degrees dated in 1946; and 1 was excluded because of irregularities in her college program.

Since the number of majors within any one department was small, certain A. B. departments were grouped together for practical purposes for the presentation of some of the data about the graduating group. The combination of the departments into these logical groups made the application

of certain statistical tests possible.

One of the groupings for A. B. departments mentioned in the preceding paragraph is art and music. The A. B. music majors were grouped with art majors rather than with B. S. music students so that A. B. and B. S. departments could be kept separate for several tests made for this study. The Bachelor of Arts in Music differs from the Bachelor of Science in Music in that the former is "a non-professional course planned for students who wish to pursue music without the specialization required for the Bachelor of Science in Music courses."⁸

Other groupings made are as follows: foreign language, including French, Latin, and Spanish; social science, including economics, history, psychology, and sociology; education, including both primary and grammar grade; mathematics and science, including mathematics, biology, chemistry, and physics. Those girls who do their work in this college in secondary education major in the departments of their major subjects.

Thus the A. B. departments had five groups or combinations in addition to English which was not combined with any other department.

The B. S. group was distributed among four departments: home economics, music, physical education, and secretarial administration.

Special analyses of the data applicable to the graduating class are presented in Chapter III and IV in terms of the departmental groupings. Certain other statistical information is given in terms of the A. B. majors as one group and the B. S. majors as another.

8. Woman's College of the University of North Carolina, Bulletin, op. cit., p. 179.

TABLE I
NUMBER IN GRADUATING GROUP CLASSIFIED
BY DEPARTMENTAL MAJORS

Bachelor of Arts	:	:	:	:
Art and Music	:	:	:	:
Art	:	17	:	:
Music	:	<u>1</u>	:	:
Total Art and Music	:	:	18	:
Education	:	:	:	:
Grammar Grade	:	17	:	:
Primary	:	<u>21</u>	:	:
Total Elementary Education	:	:	38	:
English	:	:	23	:
Foreign Language	:	:	:	:
French	:	9	:	:
Latin	:	2	:	:
Spanish	:	<u>10</u>	:	:
Total Foreign Language	:	:	21	:
Mathematics and Science	:	:	:	:
Mathematics	:	8	:	:
Biology	:	10	:	:
Chemistry	:	11	:	:
Physics	:	<u>1</u>	:	:
Total Mathematics and Science	:	:	30	:
Social Science	:	:	:	:
Economics	:	3	:	:
History	:	10	:	:
Psychology	:	12	:	:
Sociology	:	<u>39</u>	:	:
Total Social Science	:	:	<u>64</u>	:
Total Bachelor of Arts	:	:	:	194
Bachelor of Science	:	:	:	:
Home Economics	:	:	38	:
Music	:	:	8	:
Physical Education	:	:	18	:
Secretarial Administration	:	:	<u>63</u>	:
Total Bachelor of Science	:	:	:	<u>127</u>
Total in Graduating Group	:	:	:	321

Drop-Out Group

Of the original class of 646 girls, 315 withdrew for various reasons. Three of the withdrawals were excluded because of incomplete test data, and eight others were omitted because of irregularities in their college programs. The eight girls with irregular programs either withdrew and later returned to complete the work for a degree with another class or changed their major subjects, necessitating extra time in college. These eight girls were drop-outs from their original class but not from the total college program.

Any person who withdrew from this particular class was considered a drop-out or withdrawal in this study. Throughout the study the drop-out group will include 304 students.

During the four-year period, 48.8 per cent, or approximately one-half, of the beginning class withdrew. In other terms, the 304 drop-outs made up 48.6 per cent of the 625 cases considered in this study.

In her study of the women students in six colleges which had 629 freshmen in 1925, Pope found that "48 per cent withdrew before graduation,"⁹ with the percentage varying among the different schools. With similar results, Stalnaker, studying 437 freshmen at West Virginia University in 1935, found that at the end of four years "the complete number of withdrawals was 215 or 49.2 per cent."¹⁰ The percentage of the drop-outs from the class at Woman's College in this study was practically the same as Pope and Stalnaker report, although the three studies represent 3 decades.

9. Pope, op. cit., p. 15.

10. Stalnaker, op. cit., p. 103.

In a study of 1,064 freshmen admitted to Hunter College in February 1940, Weintraub and Salley reported that 57 per cent had been graduated or were still in school when their study was made.¹¹ Obviously, this means that 43 per cent had withdrawn, and this percentage is slightly lower than that found at Woman's College.

A possible range of the number of withdrawals is shown by McNeely, who, in making a study of 15,535 students in 25 universities in the United States, found that

Among the total students originally registered in 1931-32 and comprising in most cases the class supposed to graduate in 1934-35, the gross mortality ranged from 42.2 to 79.5 per cent in the different individual universities.¹²

By gross mortality, he meant "all the students who left the university during or at the end of the four-year period without obtaining degrees."¹³

Time of Withdrawal.--The time of withdrawal for the group in the present study may be ascertained from Table II.

Thirteen students, or 2 per cent of the class, did not complete one semester's work. By the end of the freshman year, a total of 163, or 54 per cent of the total drop-out group, had left college. An additional 126 students withdrew by the end of the sophomore year, and by this time 95 per cent of the drop-out group had withdrawn from college.

11. Ruth G. Weintraub and Ruth E. Salley, "Graduation Prospects of an Entering Freshman," The Journal of Educational Research, 39:116, October 1945.

12. John H. McNeely, College Student Mortality, United States Department of the Interior, Office of Education, Bulletin 1937, No. 11. Washington, D. C.: United States Government Printing Office, 1938. p. 104.

13. Loc. cit.

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13. Loc. cit.

TABLE II
NUMBER IN DROP-OUT GROUP CLASSIFIED
BY AMOUNT OF WORK COMPLETED

Amount of Work Completed	:	Numbers	:	Per Cent	:
Less than 1 semester	:	13	:		:
1 semester of freshman year	:	8	:		:
2 semesters of freshman year	:	<u>142</u>	:		:
Freshman year	:		:	53.6	:
1 semester of sophomore year	:	15	:		:
2 semesters of sophomore year	:	<u>111</u>	:		:
Sophomore year	:		:		:
1 semester of junior year	:	3	:		:
2 semesters of junior year	:	<u>10</u>	:		:
Junior year	:		:	4.3	:
1 semester of senior year	:	<u>2</u>	:	<u>.7</u>	:
Totals	:		:	100.0	:

Pope also found that "2 per cent of all entrants left before completing one semester."¹⁴ She reported that 49 per cent of the withdrawals left by the end of the freshman year.¹⁵ Her percentage is slightly lower than the one at Woman's College, where 54 per cent of drop-out group left by the end of the freshman year.

Stalnaker found that 29 per cent or approximately one-third of

14. Pope, *op. cit.*, p. 16.

15. *Ibid.*, p. 17.

the original class she studied at West Virginia University withdrew after one year's work.¹⁶ She found further for her class of 437 freshmen that "by the close of the fourth semester or the equivalent of the Junior College there was a total of 180 withdrawals or 41 per cent of the original enrollment."¹⁷

By way of comparison with Stalnaker's group, if the number of withdrawals of the particular group studied at Woman's College is given as a percentage of the total entering class, one finds that 26 per cent left by the end of the first year and 46 per cent by the end of the second year.

During the junior year, 13 girls withdrew from the group at Woman's College, while 2 others remained for a part of the senior year before withdrawing.

McNeely found that "for the universities as a whole, 33.8 per cent of the students left in the freshman year, 16.7 per cent in the sophomore year, 7.7 per cent in the junior year, and 3.9 per cent in the senior year."¹⁸ McNeely's figures and the ones for the Woman's College group bear out his statement that "the higher percentage of the students left in the freshman year with a progressive decline in the percentage for the sophomore, junior, and senior year."¹⁹

16. Stalnaker, op. cit., p. 101.

17. Ibid., p. 103.

18. McNeely, op. cit., p. 105.

19. Loc. cit.

Reasons for Withdrawal.--The reasons for leaving school which were shown on the personnel records of the students are listed in Table III. Reasons 1 and 6 could be combined, but the students having academic difficulty are shown in two groups to separate those who were asked to withdraw from those who, in all probability, left before they were asked by the college to leave. The reasons for transferring to other colleges or entering nurses' training may be explained partially by the desires to be nearer home, to be in a different type of school, or to enter a different field of work.

From the drop-out group, 102 students were asked to withdraw from college, and 8 others withdrew because of academic difficulties. Therefore, approximately one-third of the drop-outs were asked to withdraw. McNeely, also finding dismissal for failure in work one of the principal causes of withdrawal from school, reported that "in one university 46.9 per cent or almost one-half of the students left because of dismissal for failure in work."²⁰

At Hunter College, Weintraub and Salley discovered that "more than 19 per cent of the entire class who were admitted in February 1940 were required to withdraw from the college because of poor scholarship."²¹

At Woman's College, the 34 per cent of the drop-out group requested by the college to withdraw represent 16 per cent of the entire beginning class.

While Pope recognized failure in work as an important reason for withdrawal, she found in her study that "students whose academic rating

20. McNeely, loc. cit.

21. Weintraub and Salley, op. cit., p. 118.

in college was satisfactory formed 37 per cent of the withdrawal group."²²
 Upon this information, she based her statement that "it cannot be assumed that all those who withdraw are inferior students."²³

TABLE III
 REASONS FOR WITHDRAWAL

Reason	Number	Per Cent
1. Asked to Withdraw	102	33.6
2. Transferred	103	33.9
3. Marriage	18	5.9
4. Nurses' Training	16	5.3
5. Health	14	4.6
6. Academic Difficulties	8	2.6
7. Work	6	1.9
8. Dissatisfied	4	1.3
9. Reason Unknown	33	10.9
Totals	304	100.0

The 103 students who transferred from the particular class at Woman's College to some other school make up 34 per cent of the drop-out group and represent 16 per cent of the beginning class. This is the same percentage as that found for the number who were asked by the college to withdraw.

22. Pope, op. cit., p. 39.

23. Loc. cit.

Of the 15,525 students McNeely studied, "10.1 per cent transferred to some other institution."²⁴ Although he found much variation from school to school, he reported that "in the privately controlled universities the percentage of students transferring to some other institution was 1.7 higher than that for the publicly controlled universities."²⁵

The Woman's College group had a higher percentage of transfers to other schools than McNeely found. The percentage was also higher than Weintraub and Salley found at Hunter College, where only 4.3 per cent transferred to other institutions.²⁶

The two major reasons for withdrawal from school by the Woman's College students in this study were: being asked to withdraw and transferring to another school. Together they accounted for 68 per cent of the drop-out group or 32 per cent of the entire beginning class. Slightly less than one-third of the drop-out group withdrew for other reasons, including marriage, nurses' training, health, further academic difficulties, work, and dissatisfaction. The real reason why 33 girls failed to return to school in the fall for the next year's work was unknown to the college officials.

Selection of Background Factors

Certain background factors were selected in order to get a description of the group, to find any possible relationship between these factors and college success, and to find an explanation for remaining in school

24. McNeely, op. cit., p. 17.

25. Loc. cit.

26. Weintraub and Salley, op. cit., p. 120.

or withdrawing from school. The factors chosen seemed to be the most important ones and the ones which were thought to have some probable influence on a girl's success in college.

It was thought that the background information might give an explanation for college success or failure which the standardized freshman tests would not reveal. Weintraub and Salley, after studying several possible measures of success for prediction of college achievement, reported that "it is obvious that factors other than high scores operate to influence college persistence."²⁷ Sociologists, psychologists, educators, and interested writers have studied at great length the same background factors chosen for this study, although many of them have written on just one factor or a combination of several factors.

The information sought included data about the individual girl, her family, and her community. The personal information dealt with age, religious preference and church membership, birthplace, and marital status. The family facts considered were size of family, occupation of father, education, birthplace, and marital status of parents. Data about the community included the size of the community, size of high school graduating class, and the home state of the student. Additional factors considered were residence during college and the change of major subject.

Data were available for all of these factors for the members of the class. The items selected seemed to be those of most importance to the study.

Potthoff reported in his study of freshmen at the University of

27. Weintraub and Salley, op. cit., p. 126.

Chicago that "the chances for going to the University varied significantly with the social, educational, and economic status of the fathers' occupations."²⁸ Other important selective factors he found were mortality of the fathers and the education of the fathers of the students.

Pope, reporting some of the reasons for women students withdrawing from school, made the statement that "the extent to which any of these factors may become a serious problem to the college depends upon the degree to which they affect individual students."²⁹

Description of Tests

At a scheduled time during the first week of school, every freshman at Woman's College is given two standardized tests, one a psychological examination and the other an English test. The students who have studied French before coming to college are given a language test. The results of these tests are used for placement and guidance purposes.

The group in the study at Woman's College took the American Council on Education Psychological Examination, Barrett-Ryan-Schrammel English Test, and American Council on Education Cooperative French Test. It is the practice of the college to compile percentile ranks for each year for the whole group of freshmen taking each test. These percentile scores are incorporated in the students' permanent records. The raw scores were not available for the class studied; therefore, comparison with scores from other schools or with the national norms was impossible. Local

28. Edward F. Potthoff, "Who Goes to College?" Journal of Higher Education, 2:296, June 1931.

29. Pope, op. cit., p. 100.

percentile ranks are used throughout this study when the tests are mentioned.

American Council on Education Psychological Examination.--Although some records were misplaced or destroyed, indications were that the 1940 Edition of the American Council on Education Psychological Examination was used. This examination is made up of six tests which "represent a variety of tasks. Three of them involve thinking of a quantitative sort, while the other three require more linguistic ability."³⁰

The six tests are Arithmetic, Completion, Figure Analogies, Same-
Opposite, Number Series, and Verbal Analogies. The student is instructed that the tests, which take one hour, are "long enough to keep everyone busy for the whole time"³¹ and that everyone is not "expected to complete the tests in the time allowed."³²

American Council on Education Cooperative French Test.-- The American Council on Education Cooperative French Test, Revised Series, Advanced Form Q, was given to the students who had studied French in high school. Part I requires fifteen minutes for Reading; Part II, ten minutes for Vocabulary; and Part III, fifteen minutes for Grammar; making a total of forty minutes.

In Part I, the student must select from five words the one that completes the statement in French. In Part II, the student selects from a list a French word that corresponds in meaning to another word given. In

30. L. L. Thurstone and Thelma Gwinn Thurstone, American Council on Education Psychological Examination. Washington, D. C.: The American Council on Education, 1940. p. 2.

31. Loc. cit.

32. Loc. cit.

Part III, an English sentence is given, followed by a French translation which requires a word or phrase for completion, and the student is to choose that word from a list given.

The students are advised to make shrewd guesses but reminded that their score will be in terms of "correct answers diminished by a number proportional to the number of wrong answers."³³

Barrett-Ryan-Schrammel English Test.—The Barrett-Ryan-Schrammel English Test was administered to all students in the group. The general purpose of the test is "to measure objectively student and class proficiency on the essential mechanics of English--punctuation, diction, sentence structure, and the rudiments of grammar."³⁴

The Barrett-Ryan-Schrammel English Test is "the result of fifteen years of experimentation in the construction and use of practical tests in the field of the mechanics of English."³⁵ The total time allotted is forty minutes, with ten minutes for Part I, Sentence Structure and Diction; twenty minutes for Part II, Grammatical Forms; and ten minutes for Part III, Punctuation.

"The functional items are incorporated in a continuous discourse which was especially written for this purpose. The student thus follows connected thought-content material as he reacts to the test items."³⁶

33. Geraldine Spaulding and Paule Vaillant, American Council on Education Cooperative French Test, Revised Series, Advanced Form Q. New York: Cooperative Test Service.

34. E. R. Barrett, Teresa M. Ryan, and H. E. Schrammel, Barrett-Ryan-Schrammel English Test, Manual of Directions. Yonkers-on-Hudson, New York: World Book Company, 1938. p. 1.

35. Loc. cit.

36. Loc. cit.

Procedure

After the general topic of this study was chosen and approved, it was necessary to find what data were available. Permission was obtained from the Chancellor, Registrar, and Class Chairmen of the college to use official college records.

The background factors to be considered in the study were selected. A checksheet was prepared for recording the information sought about the girls' backgrounds, test scores, and quality-point ratios. A copy of the checksheet may be found in the Appendix.

Most of the data were available and accessible in the personnel files in the office of the Class Chairmen, where the records for each class are kept together until one year after graduation. Information about the graduating and drop-out groups is kept in separate files, and the two groups in this study were kept separate while the data were being compiled. Additional information was secured from the Registrar's Office.

Each item on the checksheet was considered separately and tabulated according to its proper classifications for the groups. For example, the size of the community from which each girl came was placed in one of the four following classifications: city, town, village, or open country. The totals were counted for the graduating group, which was later further divided by departments, and for the drop-out group. Tables were prepared which appear in the following chapters.

For further analysis of the graduating group, the data were tabulated and placed in contingency tables. To find association or the lack of association between the background factors and the quality-point ratios for the work of four years, the first two years, and the last two years,

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each background factor being considered was divided into logical categories such as described in the preceding paragraph. The cases within each category were then placed into the appropriate quality-point ratio bracket, such as 2.25-2.74. Quality-point ratios were divided into five classes of equal width. Then the chi-square test of independence was applied to the data, and the probability of association of each of the background factors and the three quality-point ratios was found.

Correlation tables were prepared to determine the relationship between the freshman tests and quality-point ratios. For this analysis, quality-point ratios were divided into 23 classes and test scores into 10 classes. For example, all the students who had quality-point ratios of 2.25 to 2.34 and who had percentile ratings on the tests from 30 to 39 were grouped together. The Pearson-Product-Moment method of correlation was used to find the relationship between each of the three tests and the quality-point ratios for the work of four years, the first two years, and the last two years, for the graduating group.

Coefficients of correlation were found for the psychological and English scores with the quality-point ratios for the last two years for the girls in the graduating class having different departmental majors. No attempt was made to find correlations of quality-point ratios and French test for girls in different departments because all members of the graduating group had not been given the language test as freshmen.

The relationship of the psychological examination and quality-point ratios for the drop-outs was also found. A special comparison of test results and quality-point ratios was made for the upper half of the graduating group with the drop-outs who had academic difficulties.

The background data are described and compared for the graduating and drop-out groups in Chapter II. Further analysis of the background factors is presented in Chapter III for the graduating group, which is there subdivided by the departments from which the students chose their major subjects. Results of the chi-square test of independence of the background factors of the graduating group in terms of quality-point ratios are also presented there. The relationship of the scores on the freshman standardized tests and quality-point ratios is given in Chapter IV. Chapter V presents a special analysis of the test scores and quality-point ratios for the drop-out group, including a comparison with the graduating group. Further comparison is made for the group of withdrawals who experienced academic difficulty and the students in the graduating group who made the best grades. Chapter VI summarizes the findings and gives conclusions and recommendations.

CHAPTER II

DESCRIPTION OF BACKGROUND FACTORS OF GRADUATING AND DROP-OUT GROUPS

A description of the background factors of both the graduating and drop-out groups is given in the following paragraphs. The variability within each group is noted, and a comparison between the two groups is made.

The information presented falls into four classifications: (1) personal, including age, religious preference and church membership, birthplace, and marital status; (2) family, including size of family, occupation of father and education, birthplace, and marital status of parents; (3) community, including size of community, size of high school graduating class, and the home state of the student; (4) additional, including residence during college and change of major subject.

Age of Students at Entrance

The ages of the students who entered Woman's College in 1943 are given in Table IV. The range of ages at entrance was 15 to 21 years for the graduating group and 16 to 24 for the drop-out group. The ages which occurred most frequently were 17 and 18 years, with 84 per cent of the graduating group and 88 per cent of the drop-out group falling in that age level.

The mean age for the graduating group was 17.5 years, while it was 17.3 for the drop-outs. The median age for the graduating group was 18.4

years, but for the drop-outs it was 17.6. The percentage of students who were 15, 16, and 17 years of age was greater for the graduating group (58 per cent) than for the drop-out group (46 per cent). For the higher ages of 18 years and above, the percentage of drop-outs (54 per cent) exceeded that of the graduating group (42 per cent).

TABLE IV
AGES OF STUDENTS AT ENTRANCE

Age	Graduating Group		Drop-Out Group		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
24			1	.3	1	.2
23						
22						
21	1	.3	1	.3	2	.3
20	3	.9	1	.3	4	.6
19	23	7.2	26	8.6	49	7.9
18	109	33.9	135	44.4	244	39.0
17	162	50.5	133	43.8	295	47.2
16	22	6.9	7	2.3	29	4.6
15	1	.3			1	.2
Totals	321	100.0	304	100.0	625	100.0

According to McNeely, "The factor of age at entrance was found to have a bearing on student mortality."¹ In his study of 15,535 college

1. John H. McNeely, College Student Mortality, United States Department of the Interior, Office of Education, Bulletin 1937, No. 11. Washington, D. C.: United States Government Printing Office, 1938. p. 106.

students, he found that

Of the students entering at the immature age of less than 17 years, there were 47 per cent of them who left the universities as compared with 72 per cent for the students entering at the mature age of 20 years or over. The percentages of students leaving the universities advanced concomitantly with each advance in age.²

If four years, less one summer, were added to the mean entrance age of 17.5 years for the graduating group, the mean graduation age would be slightly more than 21 years. Monroe reports that "the typical graduate has spent four years in college and is about 22 years old."³ Pressey, in studying the relationship of graduating age to vocational success, reports that "a steady decrease in per cent highly successful, nationally or internationally known, was found from youngest graduates to oldest."⁴

Religious Preference and Church Membership

Some religious preference was indicated by more than 99 per cent of both the graduating and drop-out groups, leaving less than 1 per cent with no preference. These figures are shown in Table V.

Table VI shows that the percentage for church membership was also high for both groups. A little more than 93 per cent of both the graduating group and the drop-outs were church members when they entered college.

2. McNeely, loc. cit.

3. Walter S. Monroe, editor, Encyclopedia of Educational Research. New York: The Macmillan Company, 1941. p. 254.

4. S. L. Pressey, "Age of College Graduation and Success in Adult Life," Journal of Applied Psychology, 30:232, June 1946.

TABLE V
CHURCH PREFERENCE

	Graduating Group		Drop-Out Group		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Church Preference	319	99.4	302	99.3	621	99.4
No Preference	2	.6	2	.7	4	.6
Totals	321	100.0	304	100.0	625	100.0

TABLE VI
CHURCH MEMBERSHIP

	Graduating Group		Drop-Out Group		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Church Members	300	93.5	284	93.4	584	93.4
Non-members	21	6.5	20	6.6	41	6.6
Totals	321	100.0	304	100.0	625	100.0

The Protestant churches were the choices of 94 per cent of the graduating group and 90 per cent of the drop-outs. Table VII shows the church preference of both groups and of the whole beginning class. The Catholic faith was the choice of 2 per cent of both the graduating and drop-out groups. The proportion of drop-outs indicating the Jewish faith was more than twice that for the graduating group. The Greek Orthodox faith was represented by approximately 1 per cent of the drop-outs but was not found in the graduating group.

The three largest Protestant denominations represented by both groups in the matters of church preference and membership were Methodist, Baptist, and Presbyterian. Table VIII indicates the churches to which the graduating and drop-out groups belonged. For the class studied, it is evident from the table that the Methodist students tended to persist in college better than the students in other Protestant churches. From the beginning class, more Presbyterian students withdrew than remained in college. The number of Baptist and Episcopalian students who remained in college is slightly more than the number who withdrew. Most of the denominations having fewer than 10 students in the beginning class were represented in larger proportions in the drop-out group than in the graduating group.

Pope reports from her study that "the particular religious background was a factor that did not seem to influence withdrawal."⁵

Birthplace of Students

When birthplace was considered, it was found that 79 per cent of the graduating group and 72 per cent of the drop-out group were born in North Carolina. This means, of course, that 21 per cent of the graduating group and 28 per cent of the drop-out group were born in other states.

The out-of-state birthplaces for the graduating group were distributed among 20 different states, and those for the drop-outs were distributed among 24 different states as shown by Table IX. The largest number of girls from the graduating group having out-of-state birthplaces came from

5. Ruth Vesta Pope, Factors Affecting the Elimination of Women Students From Selected Coeducational Colleges of Liberal Arts. Teachers College, Columbia University, Contributions to Education, No. 485. New York: Bureau of Publications, Teachers College, Columbia University, 1931. p. 38.

TABLE VII
CHURCH PREFERENCE OF STUDENTS

Church Preference	Graduating Group	Drop-Out Group	Total
Methodist	118	81	199
Baptist	66	64	130
Presbyterian	58	71	129
Episcopalian	30	24	54
Christian (Disciples)	8	6	14
Lutheran	10	2	12
Reformed	4	6	10
Congregational	1	6	7
Friend	1	4	5
Moravian	3		3
Dutch Reformed		3	3
Christian Science	1	2	3
Wesleyan Methodist	1		1
United	1		1
Advent Christian		1	1
Church of God		1	1
Unitarian	—	1	1
Total Protestant	302	272	574
Jewish	11	22	33
Catholic	6	6	12
Greek Orthodox		2	2
No Preference	2	2	4
Totals	321	304	625

TABLE VIII
CHURCH MEMBERSHIP OF STUDENTS

Church Membership	Graduating Group	Drop-Out Group	Total
Methodist	113	78	191
Presbyterian	54	69	123
Baptist	63	58	121
Episcopalian	27	21	48
Christian (Disciples)	6	6	12
Lutheran	10	2	12
Reformed	3	6	9
Congregational	1	5	6
Friend	1	4	5
Moravian	3		3
Dutch Reformed		3	3
Wesleyan Methodist	1		1
United	1		1
Advent Christian		1	1
Church of God	—	<u>1</u>	<u>1</u>
Total Protestant	283	254	537
Jewish	11	22	33
Catholic	6	6	12
Greek Orthodox		2	2
Non-Members	21	20	41
Totals	321	304	625

New York, Virginia, and New Jersey. Twice as many girls who were born in New York and Pennsylvania withdrew as stayed. The drop-outs also had a large proportion of the girls who were born in New Jersey. The graduating group had a larger proportion of the girls who were born in South Carolina than did the drop-out group.

TABLE IX
OUT-OF-STATE BIRTHPLACES OF STUDENTS

State	Graduating Group	Drop-Out Group	Total
Alabama	1	1	2
Arkansas		1	1
California	1		1
Colorado		1	1
Connecticut	3	4	7
District of Columbia	1	2	3
Florida	2	3	5
Georgia	5	3	8
Indiana		2	2
Iowa	1	1	2
Kentucky	2	1	3
Louisiana	1		1
Maryland	1	2	3
Massachusetts	5	4	9
Michigan		1	1
Missouri	1		1
New Hampshire		1	1
New Jersey	6	10	16
New York	8	16	24
Ohio		1	1
Pennsylvania	3	7	10
Rhode Island		1	1
South Carolina	10	6	16
Tennessee		2	2
Texas	1		1
Vermont		1	1
Virginia	12	12	24
Washington	1		1
West Virginia	3	2	5
Totals	68	85	153

No member of the beginning class was born outside the United States, and only approximately one-fourth of the class were born outside of North Carolina.

Marital Status of Students

By the time of graduation, 13 members of the graduating group were married. This means that approximately 4 per cent of the group had married before entering college or sometime during the four-year period. The records showed that 1 girl married during her sophomore year, 4 during their junior year, 4 others during their senior year; but the time of marriage was not given on the records for 4 others who were married.

Table X indicates that the drop-out group also had 13 girls who were married. They represented 4 per cent of the withdrawal group. Only one of these girls was married when she came to college. An additional 18 girls, or 6 per cent of the group, withdrew from school to marry.

TABLE X
NUMBER OF MARRIED STUDENTS

Time of Marriage	:	Graduating Group	:	Drop-Out Group	:	Total	:
Before coming to college	:		:	1	:	1	:
Freshman year	:		:	1	:	1	:
Sophomore year	:	1	:	6	:	7	:
Junior year	:	4	:	5	:	9	:
Senior year	:	4	:		:	4	:
Time not stated	:	4	:		:	4	:
Totals	:	13	:	13	:	26	:

Exactly the same number of girls from the graduating and drop-out groups were married. Apparently being married did not influence greatly withdrawal from school, although leaving school to become married did.

Size of Family

The girls considered in this study came from homes of varying sizes. The range in the size of the families for the graduating group was one through ten children and for the drop-out group was one through eleven children. Approximately 75 per cent of both the graduating and drop-out groups came from homes where there were three or fewer children, including the student. The number of children in the families, including the student, is given in Table XI.

For the graduating group, the mean number of children, including the student, was 2.9, and the median was 3.0. For the drop-outs, the mean was 2.8 and the median was 2.9. The size of the families, therefore, was practically the same for the graduating and drop-out groups.

Reynolds found in his study of 55 liberal arts colleges that "the smallest families are those represented by women in women's colleges,"⁶ where the "median is 2.98."⁷ For his whole group, he reports that

The median sized family was found to be one of 3.77 children. This is a most interesting fact since our leading sociologists claim that a family of 3.7 children is the size of family that is necessary to replace itself.⁸

6. O. Edgar Reynolds, The Social and Economic Status of College Students. Teachers College, Columbia University, Contributions to Education, No. 272. New York City: Bureau of Publications, Teachers College, Columbia University, 1927. p. 36.

7. Loc. cit.

8. Ibid., p. 55.

The median-size family which Reynolds reported from women's colleges is practically the same as that found in the present study at Woman's College, but the median-size family for his whole group is larger than the one found at Woman's College.

TABLE XI
NUMBER OF CHILDREN IN FAMILY
(INCLUDING STUDENT)

	Graduating Group		Drop-Out Group		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
1	55	17.2	62	20.4	117	18.7
2	101	31.5	98	32.3	199	31.8
3	87	27.1	68	22.4	155	24.8
4	35	10.9	45	14.8	80	12.8
5	16	5.0	11	3.6	27	4.3
6	9	2.8	8	2.6	17	2.7
7	11	3.4	6	2.0	17	2.7
8	3	.9	3	1.0	6	1.0
9	2	.6	1	.3	3	.5
10	2	.6	1	.3	3	.5
11			1	.3	1	.2
Totals	321	100.0	304	100.0	625	100.0

Approximately 17 per cent of the graduating group and 20 per cent of the drop-out group were only children. The percentage of students in the graduating group who had no brothers or sisters is only slightly lower than the percentage of the drop-outs with no brothers or sisters. Dyer

conducted a study at Bucknell University, where for three years approximately one-fifth of the freshmen women were only children, to find problems of adjustment of only children by comparing them with an equal number in a control group composed of students who were not only children.⁹ The percentage of only children in the class studied at Woman's College is practically the same for the total group as Dyer found at Bucknell University.

Dyer reports that "there appears to be no difference in the academic adjustment of only children and non-only children at the end of the first year as judged by the criteria of Quality Credits per credit hour."¹⁰ She also states that "only children at the college level seem to be as well adjusted as non-only children when the total scores of the Bell Adjustment Inventory are compared for women students."¹¹

For the larger families, approximately 8 per cent of the graduating group and 7 per cent of the drop-out group came from homes where there were at least six children, including the student.

On the whole, there seemed to be little difference in the size of the families of the graduating and drop-out groups, although a slightly higher percentage of drop-outs were only children.

9. Dorothy Tunell Dyer, "Are Only Children Different?" The Journal of Educational Psychology, 36:297, May 1945.

10. Ibid., p. 301.

11. Loc. cit.

Occupation of Father

Each student designated the occupation of her father, and these occupations were classified according to the Dictionary of Occupational Titles.¹² Table XII gives the number in each of the eight classifications. In some cases, the student may have overrated the occupation of her father, while in other instances the failure of the student to give complete information may have caused the writer to place the occupation on a lower level, particularly since some of the classifications are very closely related.

The importance and influence of the father's occupation is given by Potthoff, who reports that at the University of Chicago "the opportunity for securing a college education was conditioned markedly by the occupational status of the father."¹³

For the graduating group of the class studied at Woman's College, 35 per cent of the fathers were listed in the professional and managerial occupations. The next classification, clerical and sales, claimed 30 per cent of the fathers. Agricultural, fishery, forestry, and kindred occupations were engaged in by the fathers of 17 per cent of the girls. The occupations of the fathers of 6 per cent of the girls in the graduating group were classified as unskilled. The percentage of students whose fathers were engaged in other occupations was small: service, including

12. United States Department of Labor and United States Employment Service, Dictionary of Occupational Titles, Part I, Definitions of Titles. Washington, D. C.: United States Government Printing Office, 1939. XXIII.

13. Edward F. Potthoff, "Who Goes to College?" Journal of Higher Education, 2:296. June 1931.

domestic, personal, protective, building workers, 3 per cent; skilled, 5 per cent; semiskilled, 1 per cent; and miscellaneous, 3 per cent.

TABLE XII
OCCUPATIONS OF FATHERS

Occupation	Graduating		Drop-Out		Total	
	Group		Group			
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Professional and Managerial	113	35.2	115	37.8	228	36.5
Clerical and Sales	97	30.2	82	27.0	179	28.6
Service (domestic, personal, protective, building workers)	9	2.8	10	3.3	19	3.0
Agricultural, fishery, forestry, and kindred occupations	53	16.5	42	13.8	95	15.2
Skilled	15	4.7	19	6.3	34	5.5
Semiskilled	4	1.3	5	1.6	9	1.4
Unskilled	20	6.2	21	6.9	41	6.6
Miscellaneous	10	3.1	10	3.3	20	3.2
Totals	321	100.0	304	100.0	625	100.0

The occupations of the fathers of almost two-thirds of the drop-outs fell into the top two brackets: 38 per cent in the professional and managerial group and 27 per cent in the clerical and sales. Agricultural, fishery, forestry, and kindred occupations claimed 14 per cent of the fathers of the drop-outs. The occupations of the fathers of 7 per cent of the

drop-outs were classified as unskilled. As was true with the members of the graduating group, the percentage of students whose fathers' occupations were in the following classifications was small: service, including domestic, personal, protective, and building workers, 3 per cent; skilled, 6 per cent; semiskilled, 2 per cent; and miscellaneous, 3 per cent.

The percentage of the fathers in the professional and managerial occupations was slightly higher for the drop-outs than for members of the graduating group, but the percentage of clerical and sales was slightly higher for the graduating group. The percentage of fathers in agricultural, fishery, forestry, and kindred occupations was slightly higher for the graduating group than for the drop-outs. The percentage for service occupations was almost the same for both groups. There was practically no difference in the percentages for the two groups in the last four classifications: skilled, semiskilled, unskilled, and miscellaneous.

Hoffman studied the distribution of the occupations of the parents of the students at Pennsylvania State College from 1914 to 1932. He reports that from his evidence "sons and daughters of those who have occupations in the more ordinary walks of life are attending the Pennsylvania State College in larger numbers."¹⁴

Reynolds also was interested in the occupations of the fathers of the students in his study of 55 liberal arts colleges in different sections of the United States. He used a different classification for the occupational levels, and he found that

14. W. S. Hoffman, "Occupations of Parents of College Students," School and Society, 35:26, January 2, 1932.

Seventy-six per cent of the fathers of the students represented in this study are engaged in four occupational groups, namely, proprietary service, agricultural service, professional service, and managerial service. The parental occupational groups that are sending more than their share of the general population to college are: first, the professional service, second, proprietary service, third, commercial service, and fourth, the managerial service. Among the groups that are sending less than their proportion are the agricultural- and clerical-service groups.¹⁵

Dexter in 1920-21 gave tests to the pupils in thirteen of the ward schools in Madison, Wisconsin, in grades 1-8.¹⁶ In giving her results in terms of parental occupation, she shows that the average I. Q. was higher for the professional, clerical, and business groups than for the skilled, semiskilled, and unskilled labor groups. The percentage of pupils with I. Q.'s above the average was higher in the first three classifications than in the last three, although the skilled labor group was very close to the upper three classifications.

Pope discovered that "high rating of a father's occupation on the Barr scale furnishes no assurance that the student will be in the group which remains to graduate."¹⁷

Education of Parents

The educational level of the parents was classified in one of three categories: College Graduate, Attended College, Did not Attend College. The numbers and percentages in each classification are given in Table XIII for the fathers and in Table XIV for the mothers.

15. Reynolds, op. cit., p. 54.

16. Emily Smith Dexter, "The Relation Between Occupation of Parent and Intelligence of Children," School and Society, 17:613, June 2, 1923.

17. Pope, op. cit., p. 39.

For the graduating group, 27 per cent of the fathers and 26 per cent of the mothers were college graduates. An additional 22 per cent of the fathers and 36 per cent of the mothers attended college but were not graduated. Approximately 50 per cent of the fathers and 39 per cent of the mothers did not attend college.

For the drop-out group, 21 per cent of both the fathers and the mothers were college graduates. An additional 21 per cent of the fathers and 25 per cent of the mothers attended college but were not graduated. In the group of parents who did not attend college were 54 per cent of the fathers and 51 per cent of the mothers. The educational level of the parents of 4 per cent of the drop-out group was not given.

For both the graduating and drop-out groups, the percentage of fathers who were college graduates was higher than the percentage of the mothers. On the other hand, the percentage who attended college was higher for the mothers than for the fathers for both groups.

The World Almanac reports that for the United States as a whole 4.6 per cent of the persons 25 years old or over had finished college, "but the proportion of college graduates was higher for men than for women, 5.4 per cent against 3.7 per cent."¹⁸

The study at Woman's College shows a similar tendency for the proportion of fathers who were college graduates to be higher than for the mothers. It differs from a study Reynolds made on the matter of education of parents. He reports that "28.06 per cent of the men attended

18. The World Almanac and Book of Facts for 1943. New York: New York World-Telegram, 1943. p. 572.

as against 16.55 per cent of the mothers."¹⁹

At Woman's College a comparison of the educational background of the parents of the graduating and drop-out groups shows that the percentage of college graduates for both fathers and mothers was higher for the graduating group than for the drop-outs. The percentage of parents who attended college but were not graduated was also higher for the graduating group than for the drop-out group. There was a much larger percentage of the mothers who did not attend college for the drop-out group than for the graduating group.

TABLE XIII
EDUCATION OF FATHERS

	Graduating Group		Drop-Out Group		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
College Graduate	88	27.4	65	21.4	153	24.5
Attended College	72	22.4	63	20.7	135	21.6
Did not Attend College	161	50.2	165	54.3	326	52.2
Education not Given			11	3.6	11	1.7
Totals	321	100.0	304	100.0	625	100.0

The Sixteenth Census of the United States showed that in 1940 there were 1,649,820 persons twenty-five years old and over in North Carolina.²⁰

19. Reynolds, *op. cit.*, p. 56.

20. Sixteenth Census of the United States, population Vol. II, Characteristics of the Population, Part 5, Reports by States New York-Oregon. Washington, D. C.: United States Government Printing Office, 1943. p. 283.

Of these, 88,864 persons had attended college 1-3 years, and 67,036 had completed four years of college or more. The number of women who had attended college exceeded the number of men who had attended college by 16,000. The number of women who had been graduated exceeded the number of men who had been graduated by 4,000. The median school year completed for these people 25 years old and over was 7.4.

TABLE XIV
EDUCATION OF MOTHERS

	: Graduating : : Group :		: Drop-Out : : Group :		: Total : :		:
	: Number Per Cent :		: Number Per Cent :		: Number Per Cent :		:
College Graduate	: 83	25.9	: 63	20.7	: 146	23.4	:
Attended College	: 114	35.5	: 75	24.7	: 189	30.2	:
Did not Attend College	: 124	38.6	: 155	51.0	: 279	44.6	:
Education not Given	:		: 11	3.6	: 11	1.8	:
Totals	: 321	100.0	: 304	100.0	: 625	100.0	:

Birthplace of Parents

Table XV shows that 82 fathers and 88 mothers of the girls in the graduating group were born in states other than North Carolina. Table XVI shows that 7 fathers and 5 mothers were born in foreign countries. In terms of percentages, 26 per cent of the fathers and 27 per cent of the mothers were born in other states while an additional 2 per cent of both fathers and mothers were born in foreign countries.

TABLE XV
OUT-OF-STATE BIRTHPLACES OF PARENTS

State	Graduating Group		Drop-Out Group		Total	
	Father	Mother	Father	Mother	Father	Mother
Alabama		1	1	2	1	3
Arkansas				1		1
Colorado		1				1
Connecticut	3	2	2	4	5	6
Delaware				1		1
Florida			2		2	
Georgia	7	10	4	3	11	13
Illinois		1	4	1	4	2
Indiana	2		3	2	5	2
Iowa		1		1		2
Kansas	2	1			2	1
Kentucky	2	1	2	2	4	3
Maine	1		1	1	2	1
Maryland	3	2	2	1	5	3
Massachusetts	3	5	5	3	8	8
Michigan		1		2		3
Mississippi	1		2		3	
Missouri	2			1	2	1
Nebraska			1	2	1	2
New Hampshire		1	2	2	2	3
New Jersey	2	4	6	6	8	10
New Mexico		1				1
New York	9	8	14	19	23	27
Ohio	1	4	1	1	2	5
Pennsylvania	3	3	9	9	12	12
South Carolina	14	20	11	14	25	34
Tennessee	6	2	3	4	9	6
Texas	3	2		1	3	3
Utah				1		1
Vermont	1				1	
Virginia	16	15	13	9	29	24
Washington		1	1		1	1
West Virginia	1			1	1	1
Wisconsin		1	1		1	1
Totals	82	88	90	94	172	182

For the drop-out group, 90 fathers and 94 mothers were born outside of North Carolina, and 11 other fathers and 9 mothers were born in foreign countries. Stated in percentages, this means that 30 per cent of the fathers and 31 per cent of the mothers were born in other states. An additional 4 per cent of the fathers and 3 per cent of the mothers were born in foreign countries.

TABLE XVI
BIRTHPLACES OF PARENTS IN FOREIGN COUNTRIES

Country	Graduating Group		Drop-Out Group		Total	
	Father	Mother	Father	Mother	Father	Mother
Canada	2		1	2	3	2
Cyprus			1	1	1	1
England		1	1	1	1	2
France			1	1	1	1
Germany		1	1	1	1	2
Greece			1		1	
Italy			1	1	1	1
Poland	1		1	1	2	1
Russia	3	2	1		4	2
Scotland			2	1	2	1
Syria	1	1			1	1
Totals	7	5	11	9	18	14

For both the graduating and drop-out groups, the percentage of mothers born in states other than North Carolina was slightly higher than

the percentage of fathers. The percentage of parents born outside of North Carolina and also outside of the United States was higher for the drop-outs than for the graduating group.

Reynolds found that "98 per cent of our students are native born, and that 87.69 per cent of the fathers and 90.39 per cent of the mothers are also native born."²¹ The percentage of foreign parentage are lower for the Woman's College group than those given by Reynolds.

Marital Status of Parents

Only 4 per cent of the graduating group had parents who were separated or divorced. Table XVII shows that 12 girls came from homes where their parents did not live together. Almost half of these came from homes where the student was the only child and none from families with more than four children.

Only 5 per cent of the drop-out students had parents who were separated or divorced. This percentage is only slightly higher than that for the graduating group.

From the graduating group, 10 per cent of the girls had lost a parent by death before they came to college. This percentage represented 7 per cent of the fathers and 3 per cent of the mothers. No member of the graduating group had lost both parents before she entered college. Of the total number of parents, 642, approximately 5 per cent were deceased when the students entered college.

21. Reynolds, op. cit., p. 33.

When the girls entered college as freshmen in 1943, 12 per cent of the drop-out group had lost at least one parent by death. This includes, 4 girls, or 1 per cent of the group, who had lost both parents before they came to college. The deceased parents included 9 per cent of the fathers and 4 per cent of the mothers. Of the total number of parents, 608, there were 7 per cent deceased.

A comparison of the two groups shows that a slightly higher percentage of the drop-out group had lost their parents by death at the time the students entered college than had the graduating group. For both groups more fathers than mothers were deceased.

Potthoff, in making a study of freshmen from Chicago who entered the University of Chicago in 1924, found that

The second factor to be considered in determining the selective character of education at the college level was the mortality of the fathers of the students. Except for the more fortunate economic groups, the death of the father may bring with it various kinds of sacrifices by the children, including loss of educational opportunities.²²

Potthoff went further into the matter of mortality of the father and said

The study revealed that 10.1 per cent of all students who entered the University of Chicago in 1924 had lost their fathers by death. Reference to the United States Life Tables showed that the mortality rate among men of the same age in the general population was 18.3 per cent.²³

The percentage of students in both groups at Woman's College whose fathers were deceased was somewhat lower than Potthoff found at the University of Chicago.

22. Potthoff, loc. cit.

23. Ibid., p. 297.

TABLE XVII
MARITAL STATUS OF PARENTS

Status	Graduating Group	Drop-Out Group	Total
Separated	3	2	5
Divorced	<u>9</u>	<u>14</u>	<u>23</u>
Total Separated and Divorced	12	16	28
Father Deceased	23	28	51
Mother Deceased	<u>8</u>	<u>13</u>	<u>21</u>
Total Deceased	<u>31</u>	<u>41</u>	<u>72</u>
Total Separated, Divorced, or Deceased	43	57	100

Size of Community

The students at Woman's College as freshmen indicated on personnel blanks the size of their home communities according to one of the following four classifications: city, town, village, or open country. The number and percentage in each category are given in Table XVIII.

The students' designations were accepted without an attempt to eliminate possible overlapping. Sisson in a study at Louisiana State University to determine vocational choices of students from cities, towns, and farms, states that

While it is recognized that the distinction between city and town is not clear-cut, it seems reasonable to accept the students' designation of farm residence as accurate and to assume that the

errors in the city-town distinction will not be such as entirely to vitiate the results.²⁴

TABLE XVIII
SIZE OF HOME COMMUNITY

	Graduating Group		Drop-Out Group		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
City	112	34.9	111	36.5	223	35.7
Town	123	38.3	127	41.8	250	40.0
Village	43	13.4	36	11.8	79	12.6
Open Country	43	13.4	30	9.9	73	11.7
Totals	321	100.0	304	100.0	625	100.0

The graduating group at Woman's College described their home communities as follows: city, 35 per cent; town, 38 per cent; village, 13 per cent; and open country, 13 per cent.

The size of the home community for the drop-out group was listed as city by 37 per cent; town, 42 per cent; village, 12 per cent; and open country, 10 per cent.

The percentage of drop-outs claiming cities and towns as the size of their communities was larger than that of the graduating group. However, the percentage of the graduating group from villages and open country was larger than that of the drop-out group. The differences do not appear to be great enough to warrant disagreement with Pope's statement

24. E. Donald Sisson, "Vocational Choices of Students From Cities, Towns and Farms," School and Society, 54:94, August 9, 1941.

that "apparently the size of the town which furnishes a student's background is not predictive of her persistence in college."²⁵

Armstrong was very much interested in the intelligence of rural and urban students, and in a study on the subject, she reports that

The data from this study lead to the conclusions that rural-village and urban children do not differ in intelligence, either verbal or concrete, if of American parentage, of equivalent occupational class, and of equal school opportunity.²⁶

Along the same line, Strang states that

It has been suggested that when appropriate tests of mental ability are used and when parental status and other variables which may influence the intelligence level are equated, differences between rural and urban children tend to disappear. In other words, it is not the country or city per se that is responsible for the results reported but uncontrolled associated factors.²⁷

Size of High School Graduating Class

The students at Woman's College listed the sizes of their high school graduating classes. For the purpose of this study, the sizes of the classes were grouped into class intervals of 50, and the first group was further divided as shown by Table XIX.

Approximately 13 per cent of the graduating group came from high school graduating classes of 25 or fewer persons, and 21 per cent came from classes of 26 to 50 persons. This means that 34 per cent of the

25. Pope, op. cit., p. 38.

26. Clairette P. Armstrong, "A Study of the Intelligence of Rural and Urban Children," Journal of Educational Sociology, 4:313, January 1931.

27. Ruth Strang, Behavior and Background of Students in College and Secondary School. New York: Harper & Brothers Publishers, 1937. p. 128.

graduating group were graduated from high schools in classes of fewer than 50 persons. Approximately 21 per cent came from classes of 51 to 100 persons. The total number of girls coming from high school classes of fewer than 100 persons represented 55 per cent of the graduating group. The remaining 45 per cent represented high school graduating classes up to 850 persons, although the numbers within each of the class intervals were small.

From the drop-out group, 12 per cent were graduated from high schools with classes of 25 or fewer persons, 24 per cent from 26 to 50, 20 per cent from 51 to 100. This means that 36 per cent of the drop-outs came from high school graduating classes of 50 or fewer people. The number of girls who came from high school graduating classes of 100 or fewer persons represented 56 per cent of the drop-out group. While the range was from the small classes to the extreme class of 951 to 1,000, the numbers within the upper class intervals were not large.

A comparison of the drop-out and graduating groups shows practically no difference in the size of the high school graduating class. This is in keeping with some of Pope's findings. In stating that the size of the community does not predict a student's persistence in college, she goes further by saying that "this is true also concerning the size of the high school in which she was prepared and the size of her class."²⁸

Practically all of the girls in the class at Woman's College considered in this study were graduated from the public high schools. As

28. Pope, op. cit., p. 38.

TABLE XIX
SIZE OF HIGH SCHOOL GRADUATING CLASS

	: Graduating : : Group :		: Drop-Out : : Group :		: Total : : :		:
	: Number Per Cent :		: Number Per Cent :		: Number Per Cent :		:
0-25	: 43	13.4	: 35	11.5	: 78	12.5	:
26-50	: 66	20.6	: 74	24.3	: 140	22.4	:
51-100	: 67	20.9	: 62	20.4	: 129	20.7	:
101-150	: 22	6.8	: 28	9.2	: 50	8.0	:
151-200	: 33	10.3	: 19	6.3	: 52	8.3	:
201-250	: 8	2.5	: 6	2.0	: 14	2.2	:
251-300	: 16	5.0	: 15	4.9	: 31	5.0	:
301-350	: 10	3.1	: 19	6.3	: 29	4.6	:
351-400	: 27	8.4	: 18	5.9	: 45	7.2	:
401-450	: 18	5.6	: 16	5.3	: 34	5.4	:
451-500	: 6	1.9	: 7	2.3	: 13	2.1	:
501-550	: 3	.9	: 1	.3	: 4	.6	:
551-600	:		:		:		:
601-650	:		:		:		:
651-700	: 1	.3	: 1	.3	: 2	.3	:
701-750	:		:		:		:
751-800	:		:		:		:
801-850	: 1	.3	:		: 1	.2	:
851-900	:		: 2	.7	: 2	.3	:
901-950	:		:		:		:
951-1,000	:		: 1	.3	: 1	.2	:
Totals	: 321	100.0	: 304	100.0	: 625	100.0	:

a contrast, one finds that "about half the students in Harvard College now come from public schools."²⁹

Home State of the Student

The graduating group came almost entirely from North Carolina, with only 40 students coming from other states. These students represented 12 per cent of the graduating group. Table XX shows the number in both the graduating and drop-out groups who came from other states. The 55 drop-outs who were from states other than North Carolina represented 15 per cent of the drop-out group.

The beginning class had a total of 95 girls from other states. More than half of this number withdrew before graduation. Therefore, the number of out-of-state students who withdrew from school is larger than the number of out-of-state students who remained to be graduated four years after entrance.

The fact that admission of girls from other states to Woman's College, a state-owned institution, is limited explains the reason for the small number of out-of-state students. According to the Woman's College catalogue, one of the aims of the school is "to be of the greatest possible service to the people of North Carolina."³⁰

The largest number of out-of-state students for both the graduating and drop-out groups came from New York, New Jersey, and Virginia. More

29. The Harvard Committee, General Education in a Free Society. Cambridge, Massachusetts: Harvard University Press, 1945. p. 18.

30. Woman's College of the University of North Carolina, Bulletin, Catalogue Issue for the Year 1946-1947, Vol. XXXVI, No. 3. Greensboro, North Carolina: The College, April 1947. p. 32.

girls from each of these states withdrew than stayed in school. The number of girls from New York who withdrew from school is almost twice the number from New York who remained in school four years and were graduated.

In regard to the matter of geographical distribution and distance from home, Pope reports that "the ratio of those who withdrew to those who were graduated increased when the range of distance increased to 100 miles or more."³¹

McNeely also reports that "with an increase in the distance of the homes of the students from the institution, there was a corresponding increase in the percentages of the students leaving most of the individual universities."³² In general, distance from home was one factor that girls at Woman's College considered when they withdrew from school.

Residence During College

The students at Woman's College live either in the college residence halls or in town with their families or close relatives. Table XXI gives the number of girls who lived in each place and also the number who divided their time.

For the graduating group, 90 per cent lived in the residence halls, or dormitories, for four years, and 5 per cent lived in town for four years. The remaining 5 per cent divided their time, with 3 per cent living in the dormitories three years and in town one year and 2 per cent living in the residence halls and town two years each.

31. Pope, op. cit., p. 38.

32. McNeely, op. cit., p. 67.

TABLE XX
OUT-OF-STATE HOMES OF STUDENTS

State	Graduating Group	Drop-Out Group	Total
Connecticut	2	4	6
District of Columbia	1		1
Florida	1	1	2
Georgia	1	2	3
Kentucky	1		1
Maryland	1	1	2
Massachusetts	4	2	6
Nebraska	1		1
New Hampshire		1	1
New Jersey	8	11	19
New York	8	15	23
Pennsylvania		2	2
Rhode Island	1		1
South Carolina	4	5	9
Tennessee		1	1
Virginia	6	8	14
West Virginia	1	2	3
Totals	40	55	95

As was true with the graduating group, 90 per cent of the drop-out group lived in college residence halls during their entire stay in college.

The number of girls who lived in town during their stay in college represented 8 per cent of the drop-out group. This percentage is somewhat higher than the one found for the graduating group. The remaining 2 per cent of the drop-outs divided their time between the residence halls and town.

Reynolds found that students

. . . live in one of five types of residence, the order of preference being as follows: dormitory, 35.37 per cent; at home, 22.92 per cent; private home other than with relatives, 21 per cent; fraternity and sorority houses, 17.20 per cent; and with relatives, 3.44 per cent.³³

These figures were for both men and women students, but Reynolds also stated that "approximately one-fourth of the women attending state universities live in sorority houses. On the other hand, there is a marked tendency for the students at women's colleges to live in dormitories."³⁴

The fact that Woman's College does not have sorority houses and does not permit students to live in private homes with people other than relatives explains the high percentage of girls in this study who lived in the college residence halls.

Pope states that

Residence in a town or a city where a college was located evidently had a bearing upon withdrawals, since 64 per cent of the group drawn from such communities were numbered among those who withdrew, compared with a general withdrawal rate of 48 per cent in the colleges as a whole.³⁵

Weintraub and Salley attributed their low student mortality to the fact that the Hunter College students live at home and therefore do not

33. Reynolds, op. cit., p. 57.

34. Ibid., p. 53.

35. Pope, op. cit., p. 38.

have to make the additional adjustment to residential college life."³⁷

TABLE XXI
RESIDENCE DURING COLLEGE

Residence	Graduating Group		Drop-Out Group		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Dormitory 4 years	289	90.0			289	46.3
Town 4 years	17	5.3			17	2.7
Dormitory 3 years, town 1 year	10	3.1			10	1.6
Dormitory 2 years, town 2 years	5	1.6			5	.8
Dormitory 3½ years			2	.7	2	.3
Dormitory 3 years			12	3.9	12	1.9
Dormitory 2 years			119	39.1	119	19.0
Dormitory 1 year			143	47.0	143	22.9
Town 2 years			5	1.7	5	.8
Town 1 year			18	5.9	18	2.9
Dormitory 2 years, town 1 year			1	.3	1	.2
Dormitory 1 year, town 1 year			2	.7	2	.3
Dormitory ½ year, town ½ year			2	.7	2	.3
Totals	321	100.0	304	100.0	625	100.0

37. Ruth G. Weintraub and Ruth E. Salley, "Graduation Prospects of an Entering Freshman," The Journal of Educational Research, 39:120, October 1945.

Change of Major Subject

Each girl in the beginning class indicated some choice of major field of concentration in college. The number of times a student from the graduating group changed major subjects or departments is indicated in Table XXII. It did not seem practical to make such a tabulation for the drop-out group because the students withdrew at different times and because most of them had withdrawn from school before their junior year, the time in most departments when they would have begun active work on a major subject.

TABLE XXII
CHANGES OF MAJOR SUBJECTS MADE
BY GRADUATING GROUP

	:	Number	:	Per Cent	:
Kept same major	:	188	:	58.6	:
Changed once	:	90	:	28.0	:
Changed twice	:	38	:	11.8	:
Changed three times	:	5	:	1.6	:
Totals	:	321	:	100.0	:

The records of the graduating group show the stability of choice of major subject by the fact that 58 per cent of the graduating group kept the same major for four years. One change was made by 28 per cent of the group; 2 changes by 12 per cent; and 3 changes by only 2 per cent of the group.

Explaining some changes of major, Stalnaker suggests that some

"students shop around and shift from one college or school or major subject to another until they find a berth where they are not too uncomfortable and where they may be able eventually to make the grade."³⁸

Summary of Background Factors

The homogeneity of the group at Woman's College in respect to several of the background factors is apparent from the facts presented in this study. By far the greatest proportion of the students were of average college age, lived in North Carolina, were born in the state, had parents born in the state, were church members, had parents living together, lived in college residence halls, and were not married. The majority came from cities and towns, had one or two brothers or sisters, came from high school graduating classes of 100 or fewer people, and kept the same major subject in college. There was a great variety, however, in the educational background and occupational level of the parents.

There was no striking difference between the graduating and drop-out groups in their background. The entrance age was practically the same, although there was a slight tendency for the younger girls to be in the graduating group and for the older girls to be in the drop-out group. Religious preference and church membership were practically the same for both groups. The percentage of drop-outs born outside of North Carolina was only slightly higher than the percentage of the graduating group born outside of the state. The percentage of married students in

38. Elizabeth M. Stalnaker, "A Four Year Study of the Freshman Class of 1935 at the West Virginia University," The Journal of Educational Research, 36:106, October 1942.

both groups was the same.

The size of the average family was practically the same, although the percentage of only children was somewhat higher for the drop-outs than for the graduating group. While the percentage of parents in the professional and managerial classes was slightly higher for the drop-outs than for the graduating group, the percentage in clerical and sales occupations was a little lower for the drop-outs than for the graduating group. The percentage of fathers engaged in skilled, semiskilled, and unskilled occupations was practically the same for the two groups. The percentage of parents who were graduated from college and also the percentage of parents who attended college was higher for the graduating group than for the drop-outs. The percentage of parents with birthplaces in other states and foreign countries for the drop-out group exceeded that for the graduating group. The percentage of the drop-out group whose parents were divorced, separated, or deceased was slightly greater than the percentage for the graduating group.

A comparison of the size of home community shows that more drop-outs came from cities and towns than did the graduating group, and consequently fewer drop-outs came from villages and the open country. The size of the high school graduating class was almost the same for both groups, although the percentage of drop-outs from high school graduating classes of fewer than 50 persons is a little higher than for the graduating group. The proportion of out-of-state students was greater for the drop-out group than for the graduating group. The percentage of the drop-out group who lived in town during their stay in college was somewhat higher than the percentage of the graduating group.

The actual differences between the background factors of the graduating and drop-out groups when shown in terms of percentages seems quite small in most instances.

Chapter III gives further information about the background factors of the graduating group presented by departmental groupings.

CHAPTER III

ANALYSIS OF BACKGROUND FACTORS OF GRADUATING GROUP

The preceding chapter gave a descriptive account of the background factors of both the graduating and drop-out groups and a comparison of the two. In studying the data, it seemed desirable to investigate further the background factors of the graduating group to find any elements that might have influenced success in college. The graduating group was divided into six A. B. departments or groupings of departments and four B. S. departments, as explained in Chapter I; and the background factors are presented here in terms of these departmental groupings. The numbers and percentages within the departmental groupings are given in Table XXIII.

Results of the chi-square tests of independence for each of nine background factors and quality-point ratios for the work of the four years, the first two years, and the last two years, are also presented. This test was applied to the data for the graduating group as a whole as a method of finding whether there was any association between quality-point ratios, the measure of college success used in this study, and certain background factors which were thought to have a possible association. Further chi-square tests were made for the background factors and quality-point ratios for the last two years with the class divided into two parts: A. B. and B. S. departments.

TABLE XXIII

NUMBERS AND PERCENTAGES IN GRADUATING GROUP CLASSIFIED
ACCORDING TO DEPARTMENTAL GROUPINGS

	:	Number	:	Per Cent	:
A. B.	:		:		:
Art and Music	:	18	:	5.6	:
Education	:	38	:	11.9	:
English	:	23	:	7.2	:
Foreign Language	:	21	:	6.5	:
Mathematics and Science	:	30	:	9.3	:
Social Science	:	<u>64</u>	:	<u>19.9</u>	:
Total A. B. Students	:	194	:	60.4	:
B. S.	:		:		:
Home Economics	:	38	:	11.9	:
Music	:	8	:	2.5	:
Physical Education	:	18	:	5.6	:
Secretarial Administration	:	<u>63</u>	:	<u>19.6</u>	:
Total B. S. Students	:	<u>127</u>	:	<u>39.6</u>	:
Total Graduating Group	:	321	:	100.0	:

The results of the chi-square tests are shown as levels of probability of non-association. A chi-square (χ^2) large enough to have a probability of 1 to 2 per cent indicates that the element of chance causing these results has been ruled out except for 1 to 2 changes in 100. The probabilities resulting from the chi-square tests are given in the discussions of the factors for which the tests were applied. A summary of these probabilities

is given in Table XL and XLI, page 90 .

Age at Entrance

Table XXIV shows the ages at entrance of the students in the graduating group classified by departmental groupings. As freshmen, the ages of the graduating group ranged from 15 to 21 years. At one extreme, there was one secretarial administration major 15 years of age, while at the other limit there were three social science students 20 years of age and one 21 years of age. The students in other departments were 16 to 19 years of age, thus forming a smaller range without the extremes. The social science students above 19 years of age formed approximately 6 per cent of the social science departments.

For the entire graduating group, 85 per cent were 17 and 18 years of age. The biggest concentration of ages within each department fell in these two age levels.

The chi-square test of independence for the ages of the students at entrance and quality-point ratios for the work of the four years showed a probability of non-association of 30 to 50 per cent. The probability of non-association for the ages and quality-point ratios was 50 to 70 per cent for the work of the first two years and 98 to 99 per cent for the last two years. When the graduating group was divided into two groups, A. B. and B. S., the probability of non-association of ages at entrance and quality-point ratios for the work of the last two years was 90 to 95 per cent for each group.

For the group in this study, age at entrance did not influence college success as measured by quality-point ratios.

TABLE XXIV
AGES AT ENTRANCE OF GRADUATING GROUP BY DEPARTMENTS

Ages	15	16	17	18	19	20	21	Total	:
A. B.	:	:	:	:	:	:	:	:	:
Art and Music	:	:	7	11	:	:	:	18	:
Education	:	3	22	10	3	:	:	38	:
English	:	3	14	5	1	:	:	23	:
Foreign Language	:	:	9	7	5	:	:	21	:
Mathematics and Science	:	4	11	12	3	:	:	30	:
Social Science	:	4	30	20	6	3	1	64	:
B. S.	:	:	:	:	:	:	:	:	:
Home Economics	:	3	20	14	1	:	:	38	:
Music	:	1	6	1	:	:	:	8	:
Physical Education	:	1	9	7	1	:	:	18	:
Secretarial Administration	1	3	34	22	3	:	:	63	:
Total	1	22	162	109	23	3	1	321	:
Per Cent of Total	.3	6.9	50.5	33.9	7.2	.9	.3	100.0	:

Religious Preference and Church Membership

The religious preference of the graduating group is presented by departments in Table XXV. While more than 99 per cent of the group indicated a religious preference, 94 per cent of the group indicated a preference for the Protestant faith.

TABLE XXV

RELIGIOUS PREFERENCE OF GRADUATING GROUP BY DEPARTMENTS

	:Protestant:	Catholic :	Jewish :	Totals :
A. B.	:	:	:	:
Art and Music	: 16	:	: 2	: 18
Education	: 38	:	:	: 38
English	: 23	:	:	: 23
Foreign Language	: 20	:	: 1	: 21
Mathematics and Science	: 28	: 1	:	: 29
Social Science	: 55	: 2	: 7	: 64
B. S.	:	:	:	:
Home Economics	: 35	: 2	:	: 37
Physical Education	: 18	:	:	: 18
Music	: 8	:	:	: 8
Secretarial Adminis- tration	: 61	: 1	: 1	: 63
Total	: 302	: 6	: 11	: 319

TABLE XXVI

CHURCH MEMBERSHIP OF GRADUATING GROUP BY DEPARTMENTS

	:Protestant:	Catholic :	Jewish :	Totals :
A. B.	:	:	:	:
Art and Music	: 16	:	: 2	: 18
Education	: 35	:	:	: 35
English	: 20	:	:	: 20
Foreign Language	: 17	:	: 1	: 18
Mathematics and Science	: 27	: 1	:	: 28
Social Science	: 51	: 2	: 7	: 60
B. S.	:	:	:	:
Home Economics	: 31	: 2	:	: 33
Physical Education	: 18	:	:	: 18
Music	: 8	:	:	: 8
Secretarial Adminis- tration	: 60	: 1	: 1	: 62
Total	: 283	: 6	: 11	: 300

Although only 3 per cent of the class indicated a preference for the Jewish faith, 63 per cent of the Jewish group was concentrated in the social science departments. Approximately 11 per cent of the social science majors were Jewish.

The Catholic faith was claimed by 2 per cent of the group; but the Catholic students were distributed among the mathematics and science, social science, home economics, and secretarial administration departments, rather than being concentrated within one department.

The number of students in the graduating group who were church members is given in Table XXVI. When church membership was considered, it was found that the art and music, physical education, and music departments were 100 per cent church members. The 6 per cent of the group who were non-members were distributed among the other departments rather evenly so that it was not apparent that they fell within one department.

Since the percentages for religious preference and church membership were so high, no chi-square test of independence was made for the group.

Birthplace of Students

Table XXVII shows that 68 members of the graduating group were born in states other than North Carolina. These 68 girls made up 21 per cent of the graduating group. Of this number, 35 per cent came from the social science majors. In other terms, 38 per cent of the total social science majors were born in other states.

Of the physical education majors, 33 per cent were born in other states, and the same percentage of art and music majors were born in

other states.

The states in which these students were born are listed in Table IX, Chapter II.

No chi-square test was made for the birthplaces of the graduating group because of the great preponderance of North Carolina birthplaces. A discussion of the home state of the students later in this chapter indicates that the chi-square test was made for the home state of the students. It was thought that birthplace in another state would have less influence on success in college than would residence in another state.

TABLE XXVII

NUMBER OF STUDENTS IN GRADUATING GROUP
WHO WERE BORN OUTSIDE OF NORTH CAROLINA

A. B.

Art and Music	6
Education	2
English	2
Foreign Language	6
Mathematics and Science	7
Social Science	24

B. S.

Home Economics	6
Music	1
Physical Education	6
Secretarial Administration	<u>8</u>
Total	68

Marital Status of Students

The number of students in the graduating group who were married and the time of their marriage are presented in Table XXVIII. The total number of married students, 13, made up only 4 per cent of the graduating group.

TABLE XXVIII

NUMBER OF MARRIED STUDENTS IN GRADUATING GROUP BY DEPARTMENTS

	Time of Marriage					
	: Time	: Sopho-	: Junior	: Senior	: Total	:
	: Not	: more	: Year	: Year	:	:
	: Stated	: Year	:	:	:	:
A. B.	:	:	:	:	:	:
Art and Music	: 1	:	:	:	: 1	:
Education	:	:	:	: 1	: 1	:
English	:	:	: 2	: 1	: 3	:
Social Science	: 2	:	:	:	: 2	:
B. S.	:	:	:	:	:	:
Home Economics	:	: 1	:	:	: 1	:
Physical Education	:	:	:	: 1	: 1	:
Secretarial Administration	: 1	:	: 2	: 1	: 4	:
Total	: 4	: 1	: 4	: 4	: 13	:

The number of married students within each department was quite small. The foreign language, mathematics and science, and music departments were not represented.

The 4 married students from the secretarial administration department made up 31 per cent of the married students, but only 6 per cent of the secretarial administration majors.

The smallness of the number of married students in the graduating group did not justify the application of a chi-square test.

Size of Family

The number of children in the families of the graduating group is presented in Table XXIX. While the number of children, including the student, in the families of the graduating group ranged from 1 to 10, only 7 members of the group of 321 students came from homes of more than 7 children. Four of these 7 girls were in the home economics department, 1 in the mathematics and science departments, 1 in the music department, and 1 in secretarial administration.

For the entire graduating group, 17 per cent were only children, but the percentage was higher for certain departments. Only children were represented by 22 per cent of both the art and music and the physical education departments; by approximately 22 per cent of the social science majors; by 19 per cent of secretarial administration majors; and also by 19 per cent of the foreign language majors.

At least half of the art and music, foreign language, mathematics and science, social science, physical education, and secretarial administration majors came from homes where there were not more than two children, including the student.

Approximately 16 per cent of the home economics majors came from families of six or more children, although only 8 per cent of the whole

TABLE XXIX

NUMBER OF CHILDREN, INCLUDING STUDENT, IN FAMILIES
OF GRADUATING GROUP BY DEPARTMENTS

Number	: 1 :	2 :	3 :	4 :	5 :	6 :	7 :	8 :	9 :	10 :	Total :
A. B.	:	:	:	:	:	:	:	:	:	:	:
Art and Music	:	:	:	:	:	:	:	:	:	:	:
	: 4 :	: 5 :	: 6 :	: 2 :	: 1 :	:	:	:	:	:	: 18 :
Education	:	:	:	:	:	:	:	:	:	:	:
	: 5 :	: 11 :	: 14 :	: 5 :	: 1 :	: 2 :	:	:	:	:	: 38 :
English	:	:	:	:	:	:	:	:	:	:	:
	: 4 :	: 6 :	: 9 :	: 3 :	:	:	: 1 :	:	:	:	: 23 :
Foreign Language	:	:	:	:	:	:	:	:	:	:	:
	: 4 :	: 8 :	: 6 :	:	: 1 :	: 1 :	: 1 :	:	:	:	: 21 :
Mathematics and Science	:	:	:	:	:	:	:	:	:	:	:
	: 3 :	: 13 :	: 5 :	: 1 :	: 3 :	: 2 :	: 2 :	: 1 :	:	:	: 30 :
Social Science	:	:	:	:	:	:	:	:	:	:	:
	: 14 :	: 22 :	: 15 :	: 8 :	: 2 :	: 2 :	: 1 :	:	:	:	: 64 :
B. S.	:	:	:	:	:	:	:	:	:	:	:
Home Economics	:	:	:	:	:	:	:	:	:	:	:
	: 5 :	: 9 :	: 11 :	: 7 :	:	: 1 :	: 1 :	: 2 :	: 1 :	: 1 :	: 38 :
Music	:	:	:	:	:	:	:	:	:	:	:
	:	: 2 :	: 3 :	: 2 :	:	:	:	:	:	: 1 :	: 8 :
Physical Education	:	:	:	:	:	:	:	:	:	:	:
	: 4 :	: 5 :	: 2 :	: 2 :	: 4 :	: 1 :	:	:	:	:	: 18 :
Secretarial Administration	:	:	:	:	:	:	:	:	:	:	:
	: 12 :	: 20 :	: 16 :	: 5 :	: 4 :	:	: 5 :	:	: 1 :	:	: 63 :
Total	: 55 :	: 101 :	: 87 :	: 35 :	: 16 :	: 9 :	: 11 :	: 3 :	: 2 :	: 2 :	: 321 :
Per Cent of Total	:	:	:	:	:	:	:	:	:	:	:
	: 17.2 :	: 31.5 :	: 27.1 :	: 10.9 :	: 5.0 :	: 2.8 :	: 3.4 :	: .9 :	: .6 :	: .6 :	: 100 :

graduating group came from homes where the student was one of six or more children. Although the secretarial administration group had the same number of girls from homes of six or more children as did the home economics majors, only 10 per cent of the secretarial administration majors came

from families of six or more children.

The chi-square test for association of the size of the family and quality-point ratios showed a probability of non-association of 80 to 90 per cent for the work of the four years and 30 to 50 per cent for the work of both the first two years and the last two years. When the A. B. and B. S. groups were separated, the chi-square test of independence for the size of the family and quality-point ratios for the last two years showed a probability of non-association of 10 to 20 per cent for the A. B. students and 50 to 70 per cent for the B. S. students.

There was no significance of association of the size of family with the quality-point ratios, the nearest approach to significance being for the A. B. group and quality-point ratios for the last two years.

Occupation of Father

The occupations of the fathers classified according to the Dictionary of Occupational Titles¹ are presented in Table XXX for the girls within each departmental grouping. The fathers of 65 per cent of the class were engaged in two groups of occupations: (1) professional and managerial and (2) clerical and sales. A breakdown by departments shows that at least two-thirds of the girls from the following departments had fathers with occupations in the two above-mentioned classifications: art and music, English, education, foreign language, and social science.

The students within a department did not come predominantly from

1. United States Department of Labor and United States Employment Service, Dictionary of Occupational Titles, Part I, Definitions of Titles. Washington, D. C.: United States Government Printing Office, 1939. p. xxiii.

homes where their fathers had the same occupation. The agricultural and kindred occupations claimed the fathers of 29 per cent of the home economics majors and 33 per cent of the physical education majors, whereas for the whole graduating group, 17 per cent of the fathers were engaged in agricultural and kindred occupations. While the number of girls whose fathers were engaged in unskilled occupations represented only 6 per cent of the graduating group, the fathers of 11 per cent of the physical education majors, 10 per cent of secretarial administration majors, and 9 per cent of English majors were engaged in unskilled occupations.

When the chi-square test of association was applied to the occupations of the fathers, there was a probability of 20 to 30 per cent that there was no association between the occupational classification and the quality-point ratios for the four years, 30 to 50 per cent for the quality-point ratios for the first two years, and 80 to 90 per cent for the quality-point ratios for the last two years. When the graduating group was divided into A. B. and B. S. departments and the chi-square test was applied to the occupations of the fathers and the quality-point ratios for the work of the last two years, there was also a high probability of non-association, 70 to 80 per cent for the A. B. students and 80 to 90 per cent for the B. S. students.

Statistically, for the group studied, there seems to be little probability that there is an association between the occupational classification of the father and the success in college of a student as measured by quality-point ratios.

TABLE XXX

OCCUPATIONS OF FATHERS OF GRADUATING GROUP BY DEPARTMENTS

	:Professional: : and : Managerial :	:Clerical and: Sales :	:Service: :	:Agricul-: tural :	:Skilled: Semi- Skilled:	:Unskilled: :	:Miscel-: laneous:	: Total :
A. B.	:	:	:	:	:	:	:	:
Art and Music	: 8	: 7	: 1	: 1	: 1	:	:	: 18
Education	: 16	: 10	:	: 8	: 1	: 2	: 1	: 38
English	: 11	: 5	: 1	: 3	:	: 2	: 1	: 23
Foreign Language	: 8	: 8	:	: 1	: 1	: 1	: 1	: 21
Mathematics and Science	: 8	: 9	: 4	: 6	: 1	: 1	:	: 30
Social Science	: 21	: 29	:	: 5	: 2	: 4	: 3	: 64
B. S.	:	:	:	:	:	:	:	:
Home Economics	: 15	: 4	: 1	: 11	: 5	: 1	: 1	: 38
Music	: 1	: 4	:	: 1	: 1	: 1	:	: 8
Physical Education	: 4	: 3	: 1	: 6	: 2	: 2	:	: 18
Secretarial Administration	: 21	: 18	: 1	: 11	: 2	: 1	: 6	: 63
Total	: 113	: 97	: 9	: 53	: 15	: 4	: 20	: 321
Per Cent of Total	: 35.2	: 30.2	: 2.8	: 16.5	: 4.7	: 1.3	: 6.2	: 100.0

Education of Parents

Table XXXI shows the educational levels of the fathers of the girls in the graduating group by departmental major, and Table XXXII shows the educational levels of the mothers.

The departments with the highest percentages of fathers who were college graduates were English with 52 per cent and art and music with 39 per cent. The fathers of half or slightly more than half of the girls in the following departments did not attend college at all: education, mathematics and science, social science, home economics, music, and physical education.

The chi-square test showed a high probability of non-association between the education of the fathers and the quality-point ratios. For both the four years and the first two years, the probability was 50 to 70 per cent, and for the last two years it was 30 to 50 per cent. The education of the fathers of the A. B. majors and the quality-point ratios for the last two years showed a probability of non-association of 50 to 70 per cent. For the B. S. students the probability of non-association was larger, 80 to 90 per cent. There seemed to be practically no association of the education of the fathers and college success as measured by quality-point ratios.

For the entire graduating group, the percentage of mothers who did not attend college was lower than that of the fathers. The departments with the largest percentages of girls whose mothers were college graduates were as follows: English, 52 per cent; education, 37 per cent; and secretarial administration, 32 per cent. Approximately half of the girls

in three departments had mothers who did not attend college: mathematics and science, foreign language, and music.

The education of the mothers and the quality-point ratios for four years showed a probability of non-association of 50 to 70 per cent. The association of the education of the mothers and the quality-point ratios for the first two years approached significance, being 5 to 10 per cent. There was also a low probability of non-association for the last two years, 10 to 20 per cent. When tested for A. B. and B. S. departments separately, the probability of non-association was not significant for the education of the mothers and the quality-point ratios for the last two years, being 30 to 50 per cent for the A. B. majors and 70 to 80 per cent for the B. S. majors.

The probability of non-association of education of the mothers and quality-point ratios for the first two years was just outside the 5 per cent level of significance. There was also low probability of non-association for the last two years but high probability for the four years. If the probability of non-association had been consistently low, the conclusion could have been made that education of mothers influences success in college.

Birthplace of Parents

The preceding chapter pointed out that approximately 26 per cent of the fathers and 27 per cent of the mothers were born in states other than North Carolina and that an additional 2 per cent of both fathers and mothers were born in foreign countries. Table XXXIII shows the number of parents who were not born in North Carolina. The numbers correspond

TABLE XXXI

EDUCATION OF FATHERS OF GRADUATING GROUP BY DEPARTMENTS

	: College : Graduate	: Attended : College	: Did Not : Attend	: Total	:
A. B.	:	:	:	:	:
Art and Music	: 7	: 3	: 8	: 18	:
Education	: 10	: 9	: 19	: 38	:
English	: 12	: 4	: 7	: 23	:
Foreign Language	: 5	: 6	: 10	: 21	:
Mathematics and Science	: 6	: 5	: 19	: 30	:
Social Science	: 15	: 14	: 35	: 64	:
B. S.	:	:	:	:	:
Home Economics	: 9	: 10	: 19	: 38	:
Music	: 1	: 2	: 5	: 8	:
Physical Education	: 4	: 5	: 9	: 18	:
Secretarial Administration	: 19	: 14	: 30	: 63	:
Total	: 88	: 72	: 161	: 321	:
Per Cent of Total	: 27.4	: 22.4	: 50.2	: 100.0	:

TABLE XXXII

EDUCATION OF MOTHERS OF GRADUATING GROUP BY DEPARTMENTS

	: College : Graduate	: Attended : College	: Did Not : Attend	: Total	:
A. B.	:	:	:	:	:
Art and Music	: 3	: 8	: 7	: 18	:
Education	: 14	: 14	: 10	: 38	:
English	: 11	: 5	: 7	: 23	:
Foreign Language	: 3	: 7	: 11	: 21	:
Mathematics and Science	: 5	: 10	: 15	: 30	:
Social Science	: 17	: 21	: 26	: 64	:
B. S.	:	:	:	:	:
Home Economics	: 6	: 16	: 16	: 38	:
Music	:	: 3	: 5	: 8	:
Physical Education	: 4	: 8	: 6	: 18	:
Secretarial Administration	: 20	: 22	: 21	: 63	:
Total	: 83	: 114	: 124	: 321	:
Per Cent of Total	: 25.9	: 35.5	: 38.6	: 100.0	:

rather closely for the fathers and mothers.

The fathers of 42 per cent of the social science majors and the mothers of 38 per cent of the social science majors were born in other states. It was also found that a good number of the students from this department were born outside of North Carolina, as shown by Table XXVII, page 66. From the foreign language department, the fathers of 48 per cent of the students and the mothers of 43 per cent of the students had birthplaces in other states.

Few of the students had parents who had foreign birthplaces. Those who did were majors in art and music, mathematics and science, social science, and secretarial administration. The numbers are too small to draw any conclusions from them.

No attempt was made to apply a statistical test to this particular background factor and quality-point ratios because approximately three-fourths of the fathers and mothers of the students in the graduating group were born in North Carolina.

Marital Status of Parents

Table XXXIV shows the small number of students in the graduating group with separated and divorced parents and also the number from each department whose parents were deceased when the students entered college. Only 4 per cent of the students had parents who were separated or divorced. These students were distributed among several departments, although the largest group was in the social science department. The percentage of social science majors who had separated or divorced parents, 8 per cent, was higher than for the group as a whole.

TABLE XXXIII

NUMBER OF PARENTS OF GRADUATING GROUP WHO
HAD OUT-OF-STATE AND OUT-OF-COUNTRY BIRTHPLACES

	: Out-of-State :		: Out-of-Country :	
	: Father	Mother :	: Father	Mother :
A. B.	:	:	:	:
Art and Music	: 5	8 :	: 1	:
Education	: 5	6 :	:	:
English	: 3	4 :	:	:
Foreign Language	: 10	9 :	:	:
Mathematics and Science	: 7	9 :	: 1	1 :
Social Science	: 27	24 :	: 3	3 :
B. S.	:	:	:	:
Home Economics	: 5	5 :	:	:
Music	: 1	2 :	:	:
Physical Education	: 4	7 :	:	:
Secretarial Administration	: 15	14 :	: 2	1 :
Total	: 82	88 :	: 7	5 :

None of the graduating group had lost both parents by death before the student entered college. The girls who had lost one parent made up 10 per cent of the group. A close study of departments shows that 17 per cent of both the English and physical education majors had lost one parent by death and that 16 per cent of both the secretarial administration and education majors had lost one parent by death. Almost half (10 out of 23) of the deceased fathers belonged to the girls from the secretarial administration department whereas this department represented only

20 per cent of the entire graduating group.

The chi-square test was not used for the marital status of the parents because of the very high percentage of the students in the graduating group who had parents who were living and who were living together.

TABLE XXXIV

MARITAL STATUS OF PARENTS OF GRADUATING GROUP
WHO WERE NOT LIVING TOGETHER

	Father Deceased	Mother Deceased	Separated	Divorced
A. B.				
Art and Music	1			1
Education	4	2		1
English	1	3	1	
Foreign Language	1			1
Mathematics and Science	1	1		2
Social Science	2		2	3
B. S.				
Home Economics	1	1		1
Physical Education	2	1		
Secretarial Administration	10			
Total	23	8	3	9

Size of Community

Table XXXV indicates the number from the various departments who lived in home communities of the following sizes: city, town, village, and

open country. It is evident from this table that no departmental group came predominately from one of the four classifications. All the departments had students from each of the four classifications except art and music, foreign language, and music. All the foreign language majors indicated that they lived in cities or towns.

The A. B. departments, with 60 per cent of the graduating group, had 72 per cent of the students who lived in cities, while the B. S. departments, with 40 per cent of the class, had only 28 per cent of those from the cities. The A. B. departments had 58 per cent of the students from towns, while the B. S. departments had 42 per cent of the students from towns.

At least half of the girls in the following departments lived in cities: art and music, foreign language, social science, and music. For the group as a whole, 35 per cent lived in cities. Half of the physical education majors lived in towns, and almost half of the secretarial administration majors lived in towns.

Approximately 21 per cent of both the education and home economics departments and 22 per cent of the physical education majors lived in the country. Also 21 per cent of the home economics majors lived in villages, as did 15 per cent of the education and 22 per cent of the physical education majors. Both the education and home economics departments had 12 per cent of the graduating group.

The chi-square test of independence for the size of the community with the quality-point ratios for four years, the first two years, and the last two years showed a probability of 50 to 70 per cent that there was no association. The same probability of non-association was found for

the quality-point ratios for the last two years for the A. B. students. The probability of non-association for the B. S. students was even higher, 98 to 99 per cent. Therefore, for the group studied there was no significance of association of the size of the community and quality-point ratios in college.

TABLE XXXV

SIZE OF HOME COMMUNITY OF GRADUATING GROUP
CLASSIFIED BY MAJOR DEPARTMENTS

	: City	: Town	: Village	: Open	: Total	:
	:	:	:	: Country	:	:
A. B.	:	:	:	:	:	:
Art and Music	: 9	: 8	:	: 1	: 18	:
Education	: 10	: 14	: 6	: 8	: 38	:
English	: 6	: 10	: 3	: 4	: 23	:
Foreign Language	: 13	: 8	:	:	: 21	:
Mathematics and Science	: 8	: 14	: 2	: 6	: 30	:
Social Science	: 35	: 17	: 6	: 6	: 64	:
B. S.	:	:	:	:	:	:
Home Economics	: 11	: 11	: 8	: 8	: 38	:
Music	: 4	: 2	: 2	:	: 8	:
Physical Education	: 1	: 9	: 4	: 4	: 18	:
Secretarial Administration	: 15	: 30	: 12	: 6	: 63	:
Total	: 112	: 123	: 43	: 43	: 321	:
Per Cent of Total	: 34.9	: 38.3	: 13.4	: 13.4	: 100.0:	:

Size of High School Graduating Class

Table XXXVI shows the number of girls from the different departments grouped according to the size of their high school graduating classes. More than half of the graduating group came from high school graduating classes of 100 or fewer people. This was also true of some departments, but less than half of the girls in the following departments came from high school graduating classes of 100 or fewer persons: art and music, social science, foreign language, and music.

The number of girls representing high school graduating classes of more than 200 students made up 47 per cent of the social science group. On the other hand, the secretarial administration department, of practically the same size as the social science group, had only 18 per cent of its majors from high school graduating classes of more than 200 students. The percentages of students representing high school graduating classes of more than 200 persons were more nearly the same for the home economics group (24 per cent) and the education majors (21 per cent), and these two groups were the same size.

The chi-square test showed a fairly significant level of probability of association for the size of the high school graduating class and quality-point ratios for four years. The probability of non-association was 2 to 5 per cent. The probability of non-association for the work of the first two years was 30 to 50 per cent, and for the last two years it was 10 to 20 per cent. For the A. B. majors, the probability of non-association of the size of the high school graduating class and the quality-point ratios for the last two years was 20 to 30 per cent, and for the B. S. students

TABLE XXXVI

SIZE OF HIGH SCHOOL GRADUATING CLASS OF GRADUATING
GROUP BY DEPARTMENTS

Size of High School Graduating Class	: 1-	: 26-	: 51-	: 101-	: 151-	: 201-	: 251-	: 301-	: 351-	: 401-	: 451-	: 501-*	: 551-	: 601-	: Total	:
	: 25	: 50	: 100	: 150	: 200	: 250	: 300	: 350	: 400	: 450	: 500	: 550	: 600	: 650	:	:
A. B.	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Art and Music	:	4	4	2	3	:	:	1	2	:	1	1	:	:	18	:
Education	4	8	12	3	3	1	1	3	1	1	1	:	:	:	38	:
English	5	3	8	:	4	:	2	1	:	:	:	:	:	:	23	:
Foreign Language	2	:	3	3	3	4	:	:	3	1	2	:	:	:	21	:
Mathematics and Science	3	7	9	1	2	:	:	1	2	5	:	:	:	:	30	:
Social Science	6	11	7	4	6	1	9	3	6	7	1	2	:	1	64	:
B. S.	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Home Economics	9	9	6	2	3	1	:	:	6	1	1	:	:	:	38	:
Music	1	2	:	1	1	:	:	1	1	:	:	1	:	:	8	:
Physical Education	4	6	2	2	1	:	3	:	:	:	:	:	:	:	18	:
Secretarial Administration	9	16	16	4	7	1	1	:	6	3	:	:	:	:	63	:
Total	43	66	67	22	33	8	16	10	27	18	6	3	1	1	321	:
Per Cent of Total	13.4	20.6	20.9	6.8	10.3	2.5	5.0	3.1	8.4	5.6	1.9	.9	.3	.3	100.0	:

*The two classes omitted contained no cases.

the probability was 30 to 50 per cent, neither of which approached significance.

The size of the high school graduating class, therefore, did have a relationship to the quality-point ratios that the students in this study made during their four years of work. The smaller high school graduating classes were represented by fewer students in the higher quality-point ratio class intervals than would be expected, whereas the larger high school graduating classes were represented by more students in the higher quality-point ratio class intervals than their proportion in the entire group. This did not follow through, however, when the ratios for the work were broken down into the first two years and the last two years. Although significant levels of probability were not reached for the tests, the tendency toward association of size of high school graduating class and quality-point ratios in all three instances for the whole group is greater than for most of the other background factors considered in this study.

Home State of Students

As was pointed out in the preceding chapter, very few members of the graduating group were from states other than North Carolina. The number of out-of-state students is shown by departments in Table XXXVII.

All the English majors were from North Carolina. Each of the other departments had at least one out-of-state student. While 28 per cent of the social science majors and 22 per cent of the physical education majors came from other states, only 6 per cent of secretarial administration and 8 per cent of home economics majors came from other states. While the social science majors represented only 20 per cent of the graduating group

they accounted for 45 per cent of the number of out-of-state students.

When the chi-square test of independence was applied to the data for out-of-state students versus North Carolina students and the quality-point ratios for four years, the probability of non-association was 30 to 50 per cent; for the first two years, 50 to 70 per cent; and for the last two years, 70 to 80 per cent. The probability of non-association for both A. B. and B. S. students for the last two years was 50 to 70 per cent.

TABLE XXXVII

NUMBER OF STUDENTS IN GRADUATING GROUP
WHO DID NOT LIVE IN NORTH CAROLINA

A. B.

Art and Music	3
Education	1
Foreign Language	3
Mathematics and Science	3
Social Science	18

B. S.

Home Economics	3
Music	1
Physical Education	4
Secretarial Administration	<u>4</u>
Total	40

Therefore, the fact that students came from inside or outside of North Carolina did not influence success in college for the particular group studied at Woman's College according to the statistical chi-square test.

Residence During College

Most of the members of the graduating group at Woman's College lived in the college residence halls during their four years at college, and many others lived there during a part of their time at college. Only 5 per cent lived in town during the entire four years of college. Table XXXVIII shows the number of students in each department who lived in college dormitories four years, town four years, and dormitories and town each a part of the time.

The following departments did not have anyone to live in town for four years: art and music, education, foreign language, and physical education. The 16 per cent of home economics majors who lived in town for four years made up 35 per cent of the total group of students who lived in town for four years, although the total number of town students was small.

All foreign language majors lived in the college residence halls for four years. With the exception of one student each who lived in the dormitories three years and in town one year, all the students from both the art and music and physical education departments lived in the dormitories for four years.

The chi-square test was not used with the factor of residence during college because of the overwhelming majority of students in the graduating group who lived in college residence halls.

TABLE XXXVIII
RESIDENCE DURING COLLEGE OF GRADUATING GROUP
BY DEPARTMENTS

	:Dormitory:	Town	:Dormitory:	Dormitory:	Total	:
	: 4 Years :	4 Years	: 2 Years :	3 Years :		:
	:	:	: and Town:	and Town :		:
	:	:	: 2 Years :	1 Year :		:
A. B.	:	:	:	:	:	:
Art and Music	: 17 :	:	:	: 1 :	: 18 :	:
Education	: 36 :	:	: 1 :	: 1 :	: 38 :	:
English	: 21 :	: 2 :	:	:	: 23 :	:
Foreign Language	: 21 :	:	:	:	: 21 :	:
Mathematics and Science	: 26 :	: 1 :	: 1 :	: 2 :	: 30 :	:
Social Science	: 56 :	: 4 :	: 2 :	: 2 :	: 64 :	:
B. S.	:	:	:	:	:	:
Home Economics	: 30 :	: 6 :	: 1 :	: 1 :	: 38 :	:
Music	: 7 :	: 1 :	:	:	: 8 :	:
Physical Education	: 17 :	:	:	: 1 :	: 18 :	:
Secretarial Administration	: 58 :	: 3 :	:	: 2 :	: 63 :	:
Total	: 289 :	: 17 :	: 5 :	: 10 :	: 321 :	:
Per Cent of Total	: 90.0 :	: 5.3 :	: 3.1 :	: 1.6 :	: 100.0 :	:

Change of Major Subject

Table XXXIX shows the number of changes of major subjects made by the girls classified according to the departments from which they were graduated. For the entire graduating group, 59 per cent kept the same

choice of major subject throughout college.

No music student changed her major. The home economics majors changed little; in fact, 87 per cent of the home economics students kept the same major for four years. Other departments in which two-thirds or more of the majors kept the same major subject for four years were the following: art and music, mathematics and science, physical education, and secretarial administration.

One change of major subject was made by 45 per cent of both the social science and education majors. Two changes were made by 29 per cent of the foreign language majors, 18 per cent by the education majors, 17 per cent of both English and art and music majors; whereas for the entire graduating group only 12 per cent changed major subject twice. Only 2 per cent of the group made more than 2 changes of major subject, and no department had more than one of these students.

The chi-square test of independence revealed a significant association between stability of choice of major and college success, as measured by quality-point ratios. The probability of non-association was only 1 to 2 per cent with quality-point ratios for the first two years and 2 to 5 per cent for the four years. In positive terms, this means that there is strong evidence of association between stability of choice of major and quality-point ratios. More of the students who kept the same major subject made high grades than would be expected from their proportion to the total number, and fewer made low grades than would be expected. This relationship did not hold true when the quality-point ratios for the last two years were used; the probability of non-association became 30 to 50 per cent. Likewise when the graduating group was divided into A. B. and

B. S. majors, the probability of non-association was 30 to 50 per cent for the A. B. students and 50 to 70 per cent for the B. S. students.

TABLE XXXIX

NUMBER OF CHANGES OF MAJOR SUBJECTS MADE BY
GRADUATING GROUP CLASSIFIED BY DEPARTMENTS

	Kept Same Major	Changed Once	Changed Twice	Changed Three Times	Total
A. B.					
Art and Music	14	1	3		18
Education	13	17	7	1	38
English	11	8	4		23
Foreign Language	9	5	6	1	21
Mathematics and Science	21	7	2		30
Social Science	22	29	12	1	64
B. S.					
Home Economics	33	3	1	1	38
Music	8				8
Physical Education	12	4	2		18
Secretarial Administration	45	16	1	1	63
Total	188	90	38	5	321
Per Cent of Total	58.6	28.0	11.8	1.6	100.0

Summary of Chi-Square Test Results

The chi-square test of independence revealed that association did or did not exist between certain background factors and quality-point ratios for the four years, first two years, and last two years of college work. While this statistical technique does not indicate the degree of association, it does indicate the probability that association does or does not exist. Table XL gives a summary of the results of the chi-square tests for the whole group, and Table XLI gives a similar summary when the group was divided into A. B. and B. S. departments for the work of the last two years.

The factor which showed the highest probability of association with college success, as measured by quality-point ratios, was the stability of choice of major. The probability of non-association of stability of choice of major subject and college success when measured by the quality-point ratios for the first two years was 1 to 2 per cent and 2 to 5 per cent for the entire four years. This means that those who kept the same major made better records in college than those who changed frequently. This conclusion was not borne out when the test was applied to the quality-point ratios for the last two years for the entire group or when the group was divided into A. B. and B. S. departments.

Even if this factor had proved more consistent as an indicator of college success, it could not be used in advance as a predictive measure. All students indicated some choice of major as freshmen, and there was no way to tell which ones would change their major subjects frequently.

The next most significant probability was found in the chi-square

TABLE XL

LEVEL OF PROBABILITY FOR CHI-SQUARE TEST OF INDEPENDENCE
FOR CERTAIN BACKGROUND FACTORS AND QUALITY-
POINT RATIOS

	Quality-Point Ratio		
	Total	First Two Years	Last Two Years
Ages of Students at Entrance	: .30-.50 :	.50-.70	: .98-.99 :
Number of Children in Family	: .80-.90 :	.30-.50	: .30-.50 :
Occupations of Fathers	: .20-.30 :	.30-.50	: .80-.90 :
Education of Fathers	: .50-.70 :	.50-.70	: .30-.50 :
Education of Mothers	: .50-.70 :	.05-.10	: .10-.20 :
Size of Community	: .50-.70 :	.50-.70	: .50-.70 :
Size of High School Graduating Class	: .02-.05 :	.30-.50	: .10-.20 :
In-State and Out-of-State Students	: .30-.50 :	.50-.70	: .70-.80 :
Change of Major Subject	: .02-.05 :	.01-.02	: .30-.50 :

TABLE XLI

LEVEL OF PROBABILITY FOR CHI-SQUARE TEST OF INDEPENDENCE
FOR CERTAIN BACKGROUND FACTORS AND QUALITY-
POINT RATIOS FOR LAST TWO YEARS

	: A. B. Students : B. S. Students:	
Ages of Students at Entrance	: .90-.95 :	.90-.95 :
Number of Children in Family	: .10-.20 :	.50-.70 :
Occupations of Fathers	: .70-.80 :	.80-.90 :
Education of Fathers	: .50-.70 :	.80-.90 :
Education of Mothers	: .30-.50 :	.70-.80 :
Size of Community	: .50-.70 :	.98-.99 :
Size of High School Graduating Class	: .20-.30 :	.30-.50 :
In-State and Out-of-State Students	: .50-.70 :	.50-.70 :
Change of Major Subject	: .30-.50 :	.50-.70 :

test between size of high school graduating class and quality-point ratios for the four years, leaving only 2 to 5 per cent chance that there was no association. When tested with the quality-point ratio for the last two years, the size of the high school graduating class showed low probability

of non-association (10 to 20 per cent); but when tested for the first two years, no significance of association was found. There was also no significance of association apparent when the class was divided into A. B. and B. S. departments.

The only other association that approached significance was the education of the mothers and the quality-point ratios for the first two years, but this was just outside the 5 per cent level of probability. There was a low probability of non-association of the education of the mothers and the quality-point ratios for the last two years. When tested by quality-point ratios for the four years and by A. B. and B. S. departments for the last two years, there was no significance of association.

The education and occupation of the fathers, age of students at entrance, and the size of the family showed high probability that there was no association with all three of the quality-point ratios used. This was also true of the size of the community and the home states of the students. When the class was divided into A. B. and B. S. groups, the nearest approach to significance of association was with the number of children in the family and quality-point ratios for the last two years for the A. B. students.

These findings do not rule out the possibility that combinations of these background factors may influence the success of a student in college, but no way to measure their combined influence was found.

CHAPTER IV

ANALYSIS OF TEST SCORES AND QUALITY-POINT RATIOS FOR GRADUATING GROUP

In Chapter III the relationship of background factors of the graduating group to college success was discussed. The purpose of Chapter IV is to present the relationship of three freshman standardized tests to college success.

The actual measure of success in college used in this study is the quality-point ratio. The ratios for the graduating group are given for the work of four years, the first two years, and the last two years. The mean and median quality-point ratios are presented for each of the departmental groupings which were explained in Chapter I and used in presentation of the background data in Chapter III.

The percentile ranks on each of the three freshman standardized tests are given for the graduating group. For the English and psychological tests, the scores are also analyzed by departmental groupings.

The relationships of the freshman standardized test scores to college success, as measured by quality-point ratios, are likewise given for the graduating group. The relationships presented are between the psychological, English, and French tests and the quality-point ratios for the work of the four years, the first two years, and the last two years. For the psychological and English tests, the relationships of the test scores for the different departmental groupings and the quality-point ratios for the last two years of college work are also presented.

Analysis of Quality-Point Ratios

The quality-point ratio for each girl was found by dividing the number of quality points she earned by the number of her semester hours' credit. The school allowed 4 quality points for each semester hour's credit with a grade of A, 3 for a B, 2 for a C, and 1 for a D.

Table XLII shows the number of girls within each quality-point ratio class interval for the work of the four years, the first two years, and the last two years. The range of quality-point ratios was greater for the first two years than for the other two periods of time.

The 44 students with quality-point ratios below 1.75 during the first two years improved their averages during the last two years sufficiently to be graduated. In a study at West Virginia University, Stalnaker reports that "the honor point average increases from semester to semester."¹ A comparison of quality-point ratios for the first two and last two years as given in Table XLII shows evidence that at Woman's College this was also true.

Table XLIII gives the range, median, and mean of the quality-point ratios for the work of four years, the first two years, and the last two years, for the graduating group.

1. Elizabeth M. Stalnaker, "A Four Year Study of the Freshman Class of 1935 at the West Virginia University," The Journal of Educational Research, 39:100, October 1945.

TABLE XLII
DISTRIBUTION OF QUALITY-POINT RATIOS
FOR THE GRADUATING GROUP

Quality-Point Ratio	:	For First	:	For Last	:	For Four	:
	:	Two Years	:	Two Years	:	Years	:
3.95-4.04	:		:	1	:		:
3.85-3.94	:		:	2	:	1	:
3.75-3.84	:	2	:	9	:	4	:
3.65-3.74	:	5	:	8	:	2	:
3.55-3.64	:	4	:	7	:	7	:
3.45-3.54	:	3	:	7	:	4	:
3.35-3.44	:	3	:	12	:	7	:
3.25-3.34	:	5	:	18	:	4	:
3.15-3.24	:	9	:	20	:	14	:
3.05-3.14	:	8	:	20	:	25	:
2.95-3.04	:	19	:	18	:	9	:
2.85-2.94	:	14	:	19	:	16	:
2.75-2.84	:	11	:	26	:	15	:
2.65-2.74	:	10	:	26	:	25	:
2.55-2.64	:	13	:	21	:	17	:
2.45-2.54	:	27	:	23	:	28	:
2.35-2.44	:	17	:	20	:	19	:
2.25-2.34	:	13	:	15	:	25	:
2.15-2.24	:	20	:	21	:	33	:
2.05-2.14	:	25	:	9	:	16	:
1.95-2.04	:	16	:	15	:	22	:
1.85-1.94	:	24	:	1	:	19	:
1.75-1.84	:	29	:	3	:	9	:
1.65-1.74	:	17	:		:		:
1.55-1.64	:	18	:		:		:
1.45-1.54	:	8	:		:		:
1.35-1.44	:	1	:		:		:
Total	:	321	:	321	:	321	:

It is evident from Table XLIII that both the mean and median quality-point ratios were higher for the last two years than for the other two periods of time considered. The mean for each period was higher than the median, which indicates that the students with the highest grades influenced the mean more than the ones at the bottom where there was a cluster of many

students making the same grades.

TABLE XLIII

STATISTICAL SUMMARY OF DISTRIBUTION OF QUALITY-
POINT RATIOS FOR THE GRADUATING GROUP

Quality-Point Ratio	:	Range	:	Median	:	Mean	:	Standard	:
	:		:		:		:	Deviation	:
For 4 years	:	1.75-3.94	:	2.51	:	2.62	:	.49	:
	:		:		:		:		:
For first 2 years	:	1.35-3.84	:	2.27	:	2.36	:	.56	:
	:		:		:		:		:
For last 2 years	:	1.75-4.04	:	2.78	:	2.81	:	.49	:

The difference between the means of the quality-point ratios for the first two and the last two years, .45, was significant. When this difference between the means was divided by the standard error of the difference, a ratio of 10.975 was obtained. This ratio was well above the 1 per cent level of significance, for which a ratio of only 2.576 is required. This means that there was much less than 1 chance in 100 that a difference so large could have occurred from random errors of sampling.

Table XLIV gives the range, median, and mean of the quality-point ratios for the work of the last two years for the graduating group divided into departmental groupings.

The science and mathematics majors in the A. B. departments had the widest range of quality-point ratios of any departmental grouping. This was the same as that for the whole graduating group and for the A. B. group. The B. S. music majors, a very small group, had the smallest range.

Both the median and the mean quality-point ratios of the following

TABLE XLIV

STATISTICAL SUMMARY OF DISTRIBUTION OF QUALITY-POINT
RATIOS FOR THE GRADUATING GROUP BY DEPARTMENTS

	: Number :	Range	: Median :	Mean	: Standard :	
	:	:	:	:	: Deviation :	:
Graduating Group	: 321 :	: 1.75-4.04 :	: 2.78 :	: 2.81 :	: .49 :	:
A. B.	: 194 :	: 1.75-4.04 :	: 2.81 :	: 2.84 :	: .51 :	:
Art and Music	: 18 :	: 2.15-3.84 :	: 2.73 :	: 2.71 :	: .41 :	:
Education	: 38 :	: 2.05-3.74 :	: 2.80 :	: 2.83 :	: .45 :	:
English	: 23 :	: 1.95-3.44 :	: 3.11 :	: 3.10 :	: .40 :	:
Foreign Language	: 21 :	: 1.95-3.94 :	: 3.28 :	: 3.20 :	: .54 :	:
Science and Mathematics	: 30 :	: 1.75-4.04 :	: 2.60 :	: 2.80 :	: .60 :	:
Social Science	: 64 :	: 1.95-3.84 :	: 2.69 :	: 2.70 :	: .47 :	:
B. S.	: 127 :	: 1.75-3.84 :	: 2.74 :	: 2.75 :	: .46 :	:
Home Economics	: 38 :	: 2.15-3.74 :	: 2.78 :	: 2.76 :	: .36 :	:
Music	: 8 :	: 2.65-3.74 :	: 3.02 :	: 3.16 :	: .36 :	:
Physical Education	: 18 :	: 1.85-3.34 :	: 2.65 :	: 2.63 :	: .38 :	:
Secretarial Administration	: 63 :	: 1.75-3.84 :	: 2.69 :	: 2.72 :	: .52 :	:

departmental groups were above the median and mean for the whole graduating group: education, English, foreign language, and B. S. music. The median for the home economics majors was the same as the median for the whole group, but the mean for the home economics majors was below the mean for the whole group. Both the median and the mean ratios were higher for the

A. B. students than for the whole group and were lower for the B. S. students than for the whole group.

The difference between the means of the quality-point ratios for the A. B. and B. S. students for their work for the last two years was .09, which was not significant. The ratio found by dividing the difference between the means by the standard error of the difference was 1.631, which does not meet the 1 per cent level of significance.

The highest median quality-point ratios were made by the foreign language and the English majors, and the highest mean ratios were made by the foreign language and B. S. music majors. The lowest median quality-point ratios were made by the science and mathematics and the physical education majors, and the lowest mean quality-point ratios were made by the physical education and social science majors.

Analysis of Test Scores

Each member of the graduating group took a psychological test and an English test during her first week in college. The 215 girls who had studied French in high school took a French test. A description of each of the three tests appears in Chapter I.

The scores on these tests were arranged into local percentile ranks for the whole freshman class. The raw scores on the tests for the group in this study were not available; and, therefore, it was impossible to compare the scores on the tests with other groups outside the college.

Girls with test scores from all percentile ranks made low averages in college, but few girls in the lower percentiles of the test scores made high averages in college.

Table XLV shows the median and mean percentile ranks for each of the three tests and the number of girls from the graduating group who took each test. For each test the median was higher than the mean which indicates that the low scores tended to pull down the mean. Both the mean and the median for the English test were higher than the corresponding measures for the other two tests.

TABLE XLV

STATISTICAL SUMMARY OF DISTRIBUTION OF TEST
SCORES FOR THE GRADUATING GROUP

Name of Test	: Number : of Cases :	: Median :	: Mean :	: Standard : Deviation:
American Council on Education Psychological Examination	: 321	: 56.1	: 55.1	: 26.96
Barrett-Ryan-Schrammel English Test	: 321	: 59.1	: 57.2	: 27.14
American Council on Education Cooperative French Test	: 215	: 58.4	: 54.4	: 27.59

American Council on Education Psychological Examination

Table XLVI gives the range, median, and mean of the percentile ranks on the American Council on Education Psychological Examination for the graduating group at Woman's College and for each departmental group-
ing used in this study.

Both the median and the mean percentile ranks on the psychological test were higher for the A. B. students than for the whole graduating group and were lower for the B. S. students than for the whole group. The median percentile rank was larger than the mean percentile ranks for

all departments with the exception of education, science and mathematics, and social science. The following departments had both a median and mean percentile rank as large or larger than the median and mean percentile ranks for the whole graduating group: art and music, English, foreign language, science and mathematics, physical education, and secretarial administration. In addition, the social science majors had a mean percentile rank greater than the mean for the graduating group, and the B. S. music majors had a median percentile rank above the median for the graduating group. The English and foreign language majors had the highest median and mean percentile ranks on the psychological test, and the education and home economics majors had the lowest median and mean percentile ranks. However, the median and mean were much lower for the education majors than for the home economics majors, the two groups being of equal size.

Barrett-Ryan-Schrammel English Test

The range, median, and mean of the percentile ranks on the Barrett-Ryan-Schrammel English Test for the 321 members of the graduating group at Woman's College are given in Table XLVII.

The median percentile rank was higher than the mean for each of the groups with the exception of the following: education, home economics, physical education, and the total B. S. group. The median and mean were the same for the secretarial administration majors. Both the median and the mean were higher for the A. B. students than for the whole graduating group but were lower for the B. S. students than for the whole graduating group. The following departmental groups had a median percentile rank

TABLE XLVI
 STATISTICAL SUMMARY OF DISTRIBUTION OF SCORES ON AMERICAN
 COUNCIL ON EDUCATION PSYCHOLOGICAL EXAMINATION
 FOR THE GRADUATING GROUP BY DEPARTMENTS

	: Number : of Cases :	: Range :	: Median :	: Mean :	: Standard : Deviation :	:
Graduating Group	: 321	: 0-99	: 56.1	: 55.1	: 26.96	:
A. B.	: 194	: 0-99	: 57.5	: 56.5	: 27.84	:
Art and Music	: 18	: 10-89	: 59.5	: 55.1	: 20.94	:
Education	: 38	: 0-99	: 29.5	: 39.0	: 28.16	:
English	: 23	: 20-99	: 73.3	: 70.2	: 20.83	:
Foreign Language	: 21	: 0-99	: 74.5	: 65.5	: 23.07	:
Science and Mathematics	: 30	: 10-99	: 57.5	: 62.2	: 26.28	:
Social Science	: 64	: 0-99	: 55.2	: 55.9	: 27.83	:
B. S.	: 127	: 0-99	: 54.5	: 53.0	: 25.41	:
Home Economics	: 38	: 0-99	: 47.5	: 47.4	: 25.43	:
Music	: 8	: 10-89	: 59.5	: 54.5	: 27.84	:
Physical Education	: 18	: 0-99	: 59.5	: 56.7	: 27.20	:
Secretarial Administration	: 63	: 0-99	: 57.4	: 55.1	: 23.96	:

larger than the median for the whole graduating group: art and music, English, foreign language, science and mathematics, social science, and B. S. music. The mean percentile rank for each of the above groups was larger than the mean for the whole group with the exception of the social

science majors.

The departments having the highest median percentile ranks were foreign language and English, and the departments having the highest mean percentile ranks were B. S. music and foreign language. The education and home economics majors had the lowest median and mean percentile ranks.

TABLE XLVII

STATISTICAL SUMMARY OF DISTRIBUTION OF SCORES ON BARRETT-RYAN-SCHRAMMEL ENGLISH TEST FOR THE GRADUATING GROUP BY DEPARTMENTS

	: Number : of Cases :	: Range :	: Median :	: Mean :	: Standard : Deviation :	:
Graduating Group	: 321 :	: 0-99 :	: 59.1 :	: 57.2 :	: 27.14 :	:
A. B.	: 194 :	: 0-99 :	: 64.2 :	: 59.0 :	: 27.60 :	:
Art and Music	: 18 :	: 0-99 :	: 67.0 :	: 61.7 :	: 24.44 :	:
Education	: 38 :	: 0-99 :	: 37.5 :	: 42.7 :	: 30.43 :	:
English	: 23 :	: 10-99 :	: 75.8 :	: 68.0 :	: 24.06 :	:
Foreign Language	: 21 :	: 0-99 :	: 82.6 :	: 73.1 :	: 24.16 :	:
Science and Mathematics	: 30 :	: 0-99 :	: 72.8 :	: 66.2 :	: 24.78 :	:
Social Science	: 64 :	: 0-99 :	: 60.5 :	: 56.8 :	: 24.93 :	:
B. S.	: 127 :	: 0-99 :	: 54.0 :	: 54.6 :	: 26.22 :	:
Home Economics	: 38 :	: 0-99 :	: 44.5 :	: 47.9 :	: 28.68 :	:
Music	: 8 :	: 40-99 :	: 74.5 :	: 73.2 :	: 16.91 :	:
Physical Education	: 18 :	: 10-99 :	: 54.5 :	: 56.7 :	: 25.51 :	:
Secretarial Administration	: 63 :	: 0-99 :	: 55.6 :	: 55.6 :	: 24.37 :	:

American Council on Education Cooperative French Test

In the graduating group at Woman's College there were 215 girls who, as freshmen, took the American Council on Education Cooperative French Test. Table XLVIII gives the range, median, and mean of the percentile ranks for the French test and of the quality-point ratios for those 215 girls who took the test.

TABLE XLVIII

STATISTICAL SUMMARY OF DISTRIBUTION OF QUALITY-POINT RATIOS AND TEST SCORES FOR 215 STUDENTS WHO TOOK AMERICAN COUNCIL ON EDUCATION COOPERATIVE FRENCH TEST

	: Range	: Median	: Mean	: Standard	:
	:	:	:	: Deviation	:
Percentile Ranks on American Council on Education Cooperative French Test	: 0-99	: 58.4	: 54.4	: 27.59	:
Quality-Point Ratios for 4 Years	: 1.75-3.94	: 2.54	: 2.59	: .49	:
Quality-Point Ratios for First 2 Years	: 1.35-3.84	: 2.31	: 2.38	: .55	:
Quality-Point Ratios for Last 2 Years	: 1.75-4.04	: 2.79	: 2.82	: .50	:

The median percentile rank was higher than the mean, which indicates that there was a tendency for the low test scores to pull down the mean. The median on the French test was higher than the median on the psychological test but lower than that on the English test (See Table XLV, page 98). The mean percentile on the French test was lower than the mean on the other two tests.

For the three distributions of quality-point ratios, the mean was higher than the median, denoting the fact that the high grades tended to pull up the mean. The quality-point ratios for the work of the last two years was the highest, and for the first two years, the ratios were the lowest. These findings were in keeping with those for the ratios for the whole graduating group (See Table XLIII, page 95).

There was not a significant difference between the means of the total quality-point ratios for the entire graduating group of 321 members and the 215 students who took the French test. The ratio found by dividing the difference between the means, .03, by the standard error of the difference was .714. Such a result would be expected when a large proportion of a group is compared with the whole group.

Relation of Test Scores to Quality-Point Ratios

In an attempt to find the relationships between freshman test scores and college success, many correlation tables were prepared. Percentile ranks for each of the three tests were correlated with the quality-point ratios for the four years, the first two years, and the last two years. Coefficients of correlation were also found for the A. B. students in one group and the B. S. students in another group for the psychological and English test scores with the quality-point ratios for the last two years. Then the A. B. and B. S. groups were further divided into departments, and relationships of the test scores to the quality-point ratios for the last two years for the girls within each department were found. The Pearson product-moment method of correlation was used in all these cases.

Table XLIX shows the coefficients of correlation found for each of the three standardized tests and the quality-point ratios for the four years, the first two years, and the last two years.

TABLE XLIX
COEFFICIENTS OF CORRELATION FOR TEST SCORES AND
QUALITY-POINT RATIOS FOR GRADUATING GROUP

	Number of Cases	Obtained r	Required 1% level of significance*
American Council on Education Psychological Examination Scores and			
Quality-point ratios for 4 years	321	.44	.144
Quality-point ratios for first 2 years	321	.48	.144
Quality-point ratios for last 2 years	321	.34	.144
Barrett-Ryan-Schrammel English Test Scores and			
Quality-point ratios for 4 years	321	.47	.144
Quality-point ratios for first 2 years	321	.48	.144
Quality-point ratios for last 2 years	321	.39	.144
American Council on Education Cooperative French Test Scores and			
Quality-point ratios for 4 years	215	.44	.175
Quality-point ratios for first 2 years	215	.46	.175
Quality-point ratios for last 2 years	215	.32	.175

*Henry E. Garrett, Statistics in Psychology and Education. Third Edition; New York: Longmans, Green and Co., 1947, p. 229.

The relationship, or r , for each test and the quality-point ratios for the work of the first two years was the highest, with that of the entire four years being next, and the last two years being lowest. Each of the r 's for the three tests was significant at the 1 per cent level for the size of sample used, which means that there is only 1 chance in 100 that the relationship was due to chance. The r 's for the English test with the quality-point ratios for the four years and for the last two years were larger than the r 's for the psychological and French tests with the corresponding ratios. The r for the English test and the quality-point ratios for the first two years was greater than the r for the French test and exactly the same as the r for the psychological test with the corresponding ratios.

In order to find the predictive efficiency of the obtained r 's, the coefficient of forecasting efficiency was found. The formula used in finding E , the coefficient of forecasting efficiency or coefficient of dependability, is as follows:¹

$$E = 1 - \sqrt{1 - r^2}$$

Substituting k , the coefficient of alienation, for $\sqrt{1 - r^2}$, the formula becomes:

$$E = 1 - k$$

The coefficient of alienation, k , measures the absence of relationship while r measures the presence of relationship.² The coefficient of forecasting efficiency, E , provides a means of making a quick estimate of

1. Henry E. Garrett, Statistics in Psychology and Education. Third Edition; New York: Longmans, Green and Co., 1947. p. 299.

2. Ibid., p. 336.

the predictive efficiency of an obtained r .³

When the formula for E was applied to the r 's for each of the three tests and the quality-point ratios for the work of the first two years, the E was .13. This means that the tests' efficiency in predicting scores is 13 per cent. The predictive efficiency, as measured by E , of the obtained r 's for the psychological and French tests and quality-point ratios for the four years was 8 per cent; and for the same two tests and the quality-point ratios for the last two years, the E was only 5 per cent. The dependability or predictive value of the English test was 13 per cent for the quality-point ratios for the four years and 8 per cent for the quality-point ratios for the last two years.

Garrett states that "the correlation must be above .87 for the test's forecasting efficiency to be greater than 50%."⁴

Embree states that "The American Council Psychological Examination is perhaps the most widely used college aptitude test."⁵ Since it seems to be so widely used, it is interesting to note the comments from people who have had experience with it.

Weintraub and Salley report from Hunter College that

In common with other studies, this report shows that success on the Regents examination, in the classroom or on the American Council on Education examination is neither the sole, nor the main factor

3. Ibid., p. 337.

4. Loc. cit.

5. E. B. Embree, Jr., "Notes on the Estimation of College Aptitude Test Scores from IQ's Derived from Group Intelligence Tests," The Journal of Educational Psychology, 37:504, November 1946.

which makes for withdrawal or survival. It seems quite clear, however, that for this class, the Regents average and the class average were more reliable for the prediction of college persistence than that was success on the American Council on Education tests.⁶

Leaf endeavored to find a relationship between college grades and high school grades and test scores for 97 freshmen at La Salle-Peru-Oglesby Junior College in 1937-38 and 100 students at Colorado State Teachers College in 1932-33. He reports that

The best predictor in this combination of variables for the La Salle-Peru-Oglesby Junior College students was the average high school mark; for the Colorado State Teachers College students, the Elementary Test. The American Council Psychological Examination was the poorest predictor for both groups of students.⁷

After a battery of tests was given at the University of Buffalo, Wagner states that

For the prediction of general college success, the American Council Psychological Examination is definitely inferior, at least at this college, to the Regents average, the Regents marks in English, history and science, and to the Iowa High School Content. In specific field and class performance, it is inferior, in all but a very few cases, to the Regents average, Regents language marks, Regents grades in the particular field being studied and to the Iowa High School Content.⁸

Another point of view is given by Segel, who, after analyzing the test, states that

This test furnishes, in general, as good a prognostication of success in college as high school grades. Where college students

6. Ruth G. Weintraub and Ruth E. Salley, "Graduation Prospects of an Entering Freshman," The Journal of Educational Research, 39:124, October 1945.

7. Curtis T. Leaf, "Prediction of College Marks," Journal of Experimental Education, 8:307, March 1940.

8. Mazie Earle Wagner, "Regents Grades as a Cumulative Educational Record," School and Society, 40:368, September 15, 1934.

are drawn from a large number of high schools of varying size and efficiency the score on the test is superior in prognostic efficiency to marks received from these different schools.⁹

Smith, in writing of tests in general, suggests that "it seems safer to depend upon several factors in estimating future scholastic success than to depend upon a single factor such as IQ or college aptitude percentiles."¹⁰

Relation of Test Scores to Quality-Point Ratios of the Graduating Group by Departments

Table L shows the relationships, or r's, between the percentile ranks on the American Council on Education Psychological Examination and the quality-point ratios for the work of the last two years in college for the graduating group divided into departmental groups. The required r's for significance at the 1 per cent and 5 per cent levels for the sizes of samples used are also listed.

The r's for the A. B. and B. S. departments were both significant although r was higher for the B. S. than for the A. B. students. Within the A. B. group, the r's for the psychological examination and the quality-point ratios for the work of the last two years were significant at the 1 per cent level for the English and social science majors. Within the B. S. group, the relationship of the test and the quality-point ratios

9. David Segel, "American Council on Education Psychological Examination for College Freshman." The Nineteen Thirty Eight Mental Measurements Yearbook of the School of Education, Rutgers University. New Brunswick: Rutgers University Press, 1938. p. 97.

10. Francis F. Smith, "The Use of Previous Record in Estimating College Success," The Journal of Educational Psychology, 36:175, March 1945.

for the last two years met the 1 per cent level of significance for the home economics and secretarial administration majors.

If the 5 per cent level of significance had been used, the r for the B. S. music majors would have been the only additional group to be included in the list for significance of relationship of test scores and the quality-point ratios for the last two years of college work. The r for the B. S. music students was high, but the smallness of the sample required a high r for significance at both the 1 and 5 per cent levels.

The r for the English majors was high, but it was just above the required level of significance. For the obtained r 's that were significant, there was a greater difference between the required and obtained r 's for the secretarial administration majors than for any other departmental group. Therefore, the relationship of the test scores and quality-point ratios is more reliable for the secretarial administration majors than for the students in other departments in this study.

The lowest r 's were obtained for the physical education and art and music majors, the two groups being equal in size.

Smith states that "correlations between scores on aptitude tests and measures of scholastic success run between 0.40 and 0.55. This is not high, but it is useful."¹¹ He also points out that correlations for prediction of scholastic success are low enough "to remind us that in attempting to predict human behavior we are still dealing in probabilities rather than in fixed laws."¹²

11. Smith, *op. cit.*, p. 167.

12. *Ibid.*, p. 175.

TABLE L

COEFFICIENTS OF CORRELATION FOR PERCENTILE RANKS ON AMERICAN
COUNCIL PSYCHOLOGICAL EXAMINATION AND QUALITY-POINT RATIOS
FOR LAST TWO YEARS FOR THE GRADUATING GROUP BY DEPARTMENTS

	; Number of ; Cases	; Obtained ; "r"	; Required for Significance* ;	
			1% level	5% level
Graduating Group	321	.340	.144	.110
A. B.	194	.301	.185	.141
Art and Music	18	.167	.590	.468
Education	38	.223	.414	.321
English	23	.548	.526	.413
Foreign Language	21	.173	.549	.433
Science and Mathematics	30	.240	.463	.361
Social Science	64	.364	.320	.246
B. S.	127	.413	.228	.174
Home Economics	38	.491	.414	.321
Music	8	.778	.834	.707
Physical Education	18	.152	.590	.468
Secretarial Administration	63	.466	.323	.248

*Henry E. Garrett, Statistics in Psychology and Education. Third Edition;
New York: Longmans, Green and Co., 1947, p. 299.

Hurd suggests that

Some researchers have pointed out that one reason for the absence of more significant correlations resides in the unreliability and resulting invalidity of achievement ratings. It now seems clear that another reason for lack of higher coefficients resides in the real lack of correlation due to the great variety of abilities involved. Achievement records, even though reliable and valid, might not be expected to be accurately predicted from test scores which are measures of abilities not identifiable with the kind of achievement being predicted.¹³

Table LI presents the relationships between the percentile ranks on the Barrett-Ryan-Schrammel English Test and the quality-point ratios for the work of the last two years in college for the graduating group divided into departmental groupings. The required r's to meet the 1 per cent and the 5 per cent levels of significance are also given.

The relationship of the English test and the quality-point ratios for the last two years was significant for the A. B. and B. S. groups, although the r was higher for the B. S. students than for the A. B. students. Relationships significant at the 1 per cent level were found for the foreign language and social science majors in the A. B. group and for the secretarial administration majors in the B. S. departments. Only 1 chance in 100 was left that these relationships were not real, or that the true r was not zero. If the 5 per cent level had been used, the r for the home economics majors would have met the test of significance.

The relationship of the English test and the quality-point ratios for the last two years of college work was practically the same for the foreign language and secretarial administration majors. However, because of the difference in the size of the groups, the r for the foreign language

13. Archer Willis Hurd, "The Problem of the Prediction of College Success," The Journal of Educational Research, 38:217, November 1944.

TABLE LI

COEFFICIENTS OF CORRELATION FOR PERCENTILE RANKS ON BARRETT-RYAN-SCHRAMMEL ENGLISH TEST AND QUALITY-POINT RATIOS FOR LAST TWO YEARS FOR THE GRADUATING GROUP BY DEPARTMENTS

	: Number of : Cases	: Obtained : "r"	: Required for Significance* :	
			: 1% level	: 5% level
Graduating Group	321	.385	.144	.110
A. B.	194	.379	.185	.141
Art and Music	18	.235	.590	.468
Education	38	.284	.414	.321
English	23	.373	.526	.413
Foreign Language	21	.562	.549	.433
Science and Mathematics	30	.265	.463	.361
Social Science	64	.345	.320	.246
B. S.	127	.430	.228	.174
Home Economics	38	.350	.414	.321
Music	8	.340	.834	.707
Physical Education	18	.086	.590	.468
Secretarial Administration	63	.556	.323	.248

*Henry E. Garrett, Statistics in Psychology and Education. Third Edition; New York: Longmans, Green and Co., 1947. p. 299.

majors barely met the significant level whereas the r for the secretarial administration majors greatly exceeded the r required for significance.

The r 's for the English test and the quality-point ratios for the physical education and the art and music majors were the lowest for the group and were greatly below the level of significance. The r for the English test and the quality-point ratios for the English majors did not meet the 1 or the 5 per cent level of significance.

Summary of Correlations for Test Scores and Quality-Point Ratios

The Pearson product-moment method of correlation was used to find the relationship between the three freshman standardized tests and college success, as measured by quality-point ratios. For the psychological, English, and French tests, a significant relationship was found to exist between each of the tests and the quality-point ratios for the work of the four years, the first two years, and the last two years.

The highest relationship found for each test for the whole group was with the quality-point ratios for the work of the first two years. Therefore, the score a girl made on her freshman tests was more closely related to the quality of work she did during her first two years of college than to the other periods of time used in this study. However, in terms of the coefficient of forecasting efficiency, E , the predictive value of the r 's obtained was only 13 per cent.

The r 's for the tests and the quality-point ratios were higher for the work of the four years than for the work of the last two years but lower than for the work of the first two years. Therefore, the degree of the relationship of the test scores and quality-point ratios decreased

with the length of time the student stayed in college.

The predictive efficiency of the r's for the psychological and French tests was 8 per cent for the work of the four years and 5 per cent for the work of the last two years.

The r's for the English test were greater than the r's for the other two tests and the corresponding quality-point ratios with one exception. The psychological examination and the ratios for the work of the four years gave an r of the same size as the English test and the corresponding ratio. Therefore, the scores on the freshman English test were more directly related to the success of a girl in college, measured in terms of quality-point ratios, than the other two tests. The predictive value of the r's obtained for the English test and the work of the first two years and the work of the four years was 13 per cent in terms of the coefficient of forecasting efficiency but was reduced to 8 per cent for the work of the last two years.

For further analysis of the psychological and English tests with the quality-point ratios for the work of the last two years, the graduating group was divided into two separate groups, A. B. and B. S. The relationship between these two tests and the quality-point ratios for the last two years easily met the 1 per cent level of significance for both groups. The relationships were higher for the B. S. group than for the A. B. group on both tests. Therefore, the scores on the tests were more directly related to the work of the students in the B. S. departments than of the students in the A. B. departments.

Further correlations were made for these two tests with the quality-point ratios for the work of the last two years for the six departmental

groupings of the A. B. students and the four B. S. departments. The r's for the English test were higher than the r's for the psychological test for all groups with the exception of the following: English, social science, home economics, B. S. music, and physical education.

A significant relationship at the 1 per cent level was found for the psychological examination and the quality-point ratios for the last two years for the English, social science, home economics, and secretarial administration majors. The relationship of the English test and the quality-point ratios for the last two years also met the 1 per cent level of significance for each of the following groups: foreign language, social science, and secretarial administration.

The test scores had a significant relationship for the entire graduating group, for the A. B. students as a group, for the B. S. students as a group, and for certain departmental groupings. While the relationships were not high enough to predict the quality of college work of every girl, they could be useful in many cases.

CHAPTER V

ANALYSIS OF QUALITY-POINT RATIOS AND TEST SCORES OF DROP-OUT GROUP

It seemed desirable to make a further analysis of the data of the drop-outs in addition to the presentation of their background and personal data in Chapter II. This special analysis deals with their quality-point ratios for the time that they were in college, their percentile ranks on the American Council on Education Psychological Examination and on the Barrett-Ryan-Schrammel English Test, and a comparison of a group of drop-outs who experienced academic difficulty in college with a special group of graduating students who made high averages in their college work.

The presentation in this chapter should throw further light on the success picture of the withdrawals.

Analysis of Quality-Point Ratios

The quality-point ratios for the drop-outs presented in Table LII were found by dividing the total quality points for each girl by her total semester hours' credit. The range of quality-point ratios for the drop-out group was 0.00 to 3.84. This wide range included a group on one extreme who received no credit and no quality points and another group on the other extreme who had high B averages. This indicates that there were some very good students who withdrew and others who were very weak.

Caution should be used in interpreting a few of the ratios. A

TABLE LII
DISTRIBUTION OF QUALITY-POINT
RATIOS FOR DROP-OUT GROUP

Quality-Point Ratio	:	Number	:
3.75-3.84	:	2	:
3.65-3.74	:		:
3.55-3.64	:	1	:
3.45-3.54	:	2	:
3.35-3.44	:	3	:
3.25-3.34	:	2	:
3.15-3.24	:	4	:
3.05-3.14	:	5	:
2.95-3.04	:	4	:
2.85-2.94	:	3	:
2.75-2.84	:	8	:
2.65-2.74	:	11	:
2.55-2.64	:	4	:
2.45-2.54	:	16	:
2.35-2.44	:	9	:
2.25-2.34	:	15	:
2.15-2.24	:	14	:
2.05-2.14	:	7	:
1.95-2.04	:	17	:
1.85-1.94	:	12	:
1.75-1.84	:	13	:
1.65-1.74	:	10	:
1.55-1.64	:	21	:
1.45-1.54	:	26	:
1.35-1.44	:	19	:
1.25-1.34	:	22	:
1.15-1.24	:	12	:
1.05-1.14	:	7	:
0.95-1.04	:	21	:
*0.00-0.14	:	14	:
Total	:	304	:

*No girls made quality-point ratios between 0.14 and 0.95. The 14 girls in the lowest class interval had quality-point ratios of 0.00.

student who passed fifteen semester hours' work with a grade of D on each course had a 1.00 quality-point ratio. Likewise, a student who passed one three-hour course with a D also had a 1.00 quality-point ratio. The number of times she failed a course had no effect on her quality-point ratio because she received no credit and no quality-points for the attempt.

It should be remembered that some of the girls in the drop-out group withdrew before completing one semester of work while others remained for longer periods of time, even for part of the junior or senior year.

The median quality-point ratio for the drop-out group calculated for the length of time the girls were in college was 1.75. The median quality-point ratio for four years' work in college for the graduating group was 2.51. For the drop-out group, the mean quality-point ratio was 1.83, while the mean quality-point ratio for the graduating group was 2.62.

Since a large portion of the drop-out group withdrew by the end of the sophomore year in college, a comparison with the graduating group for their work for the first two years of college work was made. The median for the work of the first two years for the graduating group was 2.27 and the mean for the same period of time was 2.78, both of which were far above the median and mean for the drop-out group.

Analysis of Percentile Ranks on Standardized Tests

The girls in the drop-out group took the standardized tests with the graduating group when they entered college together as freshmen in

1943. The test scores of the entire class were grouped into local percentile ranks.

The percentile ranks of the drop-out group on the American Council on Education Psychological Examination and the Barrett-Ryan-Schrammel English Test are presented in this chapter. Since all members of the group did not take the French test, no test data are given for those students who took the language test.

American Council on Education Psychological Examination

Table LIII shows that each level of percentile ranks on the American Council on Education Psychological Examination made by the beginning freshman class at Woman's College in 1943 was represented by girls who withdrew before graduation. However, twice as many girls with test scores in the lowest tenth of the class withdrew as did girls in the highest tenth. There were 61 drop-outs from below the 10th percentile while there were only 30 at the 90th percentile or above.

The 101 girls who fell below the 20th percentile of their class on the American Council on Education Psychological Examination represented one-third of the drop-out group. An additional 111 drop-outs were in the group from the 20th to the 60th percentile. This means that 70 per cent of the drop-out group were below the 60th percentile on the psychological examination.

The median percentile rank on the psychological examination for the entire drop-out group was 35.4. For the graduating group, the median percentile rank on the same examination was 56.1.

The mean percentile rank for the 304 drop-outs was 42.8. For the graduating group of 321 girls, the mean percentile rank was 55.1.

TABLE LIII
DISTRIBUTION OF PERCENTILE RANKS OF DROP-OUTS
ON AMERICAN COUNCIL ON EDUCATION
PSYCHOLOGICAL EXAMINATION

Percentile	:	Number	:	Per Cent	:
90-99	:	30	:	9.8	:
80-89	:	27	:	8.9	:
70-79	:	22	:	7.2	:
60-69	:	13	:	4.3	:
50-59	:	33	:	10.9	:
40-49	:	20	:	6.6	:
30-39	:	29	:	9.5	:
20-29	:	29	:	9.5	:
10-19	:	40	:	13.2	:
0-9	:	61	:	20.1	:
Total	:	304	:	100.0	:

Barrett-Ryan-Schrammel English Test

The number of girls in the drop-out group who had test scores in each level of the percentile ranks on the Barrett-Ryan-Schrammel English Test is presented in Table LIV. As was true with the scores on the psychological examination, twice as many girls from the lowest tenth of the class on the English test withdrew as did girls from the highest tenth.

While one-third of the drop-out group was below the 20th percentile on the psychological examination, one-fourth of the drop-out group was below the 20th percentile on the English test. The drop-out students

TABLE LIV
DISTRIBUTION OF PERCENTILE RANKS OF DROP-OUTS
ON BARRETT-RYAN-SCHRAMMEL ENGLISH TEST

Percentile	:	Number	:	Per Cent	:
90-99	:	22	:	7.3	:
80-89	:	25	:	8.2	:
70-79	:	26	:	8.6	:
60-69	:	23	:	7.6	:
50-59	:	28	:	9.2	:
40-49	:	28	:	9.2	:
30-39	:	32	:	10.5	:
20-29	:	45	:	14.8	:
10-19	:	32	:	10.5	:
0-9	:	43	:	14.1	:
Total	:	304	:	100.0	:

who were below the 60th percentile on the English test represented 68 per cent of the drop-out group. This was close to the same proportion of the drop-out group who were below the 60th percentile on the psychological examination.

The median percentile rank on the English test for the 304 drop-out students was 39.5. For the graduating group of 321 students, the median percentile rank on the same examination was 59.1.

The mean percentile rank for the drop-out group was 43.6. The mean percentile rank for the graduating group was 57.2.

Both the median and the mean percentile ranks of the drop-out group were higher for the English test than for the psychological examination.

Relation of Test Scores and Quality-Point Ratios

The Pearson product-moment method of correlation was used to find the relationship between the total quality-point ratios and the local percentile ranks on the American Council Psychological Examination. While it was recognized that quality-point ratios did not have the same meaning for the drop-out group as they did for the graduating group, it was thought worthwhile to find the correlation of the ratios with the scores on one of the three freshman standardized tests. In spite of the fact that the drop-outs stayed in school for different lengths of time, the ratio of quality points to semester hours was found for the total time each drop-out remained in college.

The relationship, or r , found to exist between the examination and the quality-point ratios was .54. By way of comparison, the highest correlation found for the graduating group for the same examination was with the quality-point ratios for the work of the first two years where an r of .48 was found. For the total quality-point ratios of the graduating group, an r of .44 was obtained, but for the work of the last two years the r was reduced to .34.

It would seem from the higher correlation of the test scores and quality-point ratios for the drop-outs that the psychological examination had more predictive value for drop-outs than for the group of students who remained in school to be graduated. The r was doubtless increased by

the greater range of quality-point ratios for the drop-outs than for the graduating group. It should be remembered, however, that some members of the graduating group who made low test scores as freshmen were graduated in spite of their low test scores on the psychological examination.

Special Comparison of Drop-Out and Graduating Groups

In trying further to determine if the test scores had any predictive value in identifying the drop-outs, it was thought advisable to select a special group of drop-outs and to compare their test scores and quality-point ratios with those of a selected group from the graduating group. The drop-outs chosen were the 110 students who were asked to withdraw from college or who withdrew voluntarily because of academic difficulties. This was the group for which there was evidence of inability to do satisfactory work in college. The girls selected from the graduating group were those in the median quality-point class interval and above. These 178 girls from the graduating group had evidenced their ability to make good academic records in college.

Thus, the two groups selected for comparison were at the extremes in ability to do college work. The drop-outs had very low quality-point averages, while the special group from the graduating group represented the upper half of their group. The range of total quality-point ratios for the students who withdrew because of academic difficulties was 0.00-2.54, as shown by Table LV. This group of students was compared with the upper half of the graduating group whose quality-point ratios for four years' work ranged from 2.45 to 3.94.

Only five of the special group of drop-outs made 1.95 quality-point ratio or higher for the length of time they were in college.

TABLE LV

DISTRIBUTION OF QUALITY-POINT RATIOS FOR UPPER
HALF OF GRADUATING GROUP AND DROP-OUTS WHO
EXPERIENCED ACADEMIC DIFFICULTIES

Quality-Point Ratio	:	Graduating Group	:	Drop-Out Group	:
3.85-3.94	:	1	:		:
3.75-3.84	:	4	:		:
3.65-3.74	:	2	:		:
3.55-3.64	:	7	:		:
3.45-3.54	:	4	:		:
3.35-3.44	:	7	:		:
3.25-3.34	:	4	:		:
3.15-3.24	:	14	:		:
3.05-3.14	:	25	:		:
2.95-3.04	:	9	:		:
2.85-2.94	:	16	:		:
2.75-2.84	:	15	:		:
2.65-2.74	:	25	:		:
2.55-2.64	:	17	:		:
2.45-2.54	:	28	:	1	:
2.35-2.44	:		:		:
2.25-2.34	:		:		:
2.15-2.24	:		:	1	:
2.05-2.14	:		:	1	:
1.95-2.04	:		:	2	:
1.85-1.94	:		:	2	:
1.75-1.84	:		:	2	:
1.65-1.74	:		:	4	:
1.55-1.64	:		:	8	:
1.45-1.54	:		:	19	:
1.35-1.44	:		:	14	:
1.25-1.34	:		:	15	:
1.15-1.24	:		:	10	:
1.05-1.14	:		:	6	:
0.95-1.04	:		:	20	:
*0.00-0.14	:		:	5	:
Total	:	178	:	110	:

*No girls made quality-point ratios between 0.14 and 0.95. The 5 girls in the lowest class interval had quality-point ratios of 0.00.

Again caution must be used in interpreting quality-point ratios for the drop-out students. For example, the student in this group with a 2.50 ratio is listed at the top of the group. However, this ratio was obtained by dividing her 15 quality points by her 6 semester hours' credit.

The median quality-point ratio for the weak drop-out students was 1.34; but for the good students in the graduating group, the median quality-point ratio for four years of college work was 2.88. For the same two groups, the drop-outs had a mean quality-point ratio of 1.29, or a D average, and the graduating group had a mean quality-point ratio of 2.93, a low B average. Statistically, the difference between the means of 1.64 was well above the 1 per cent level of probability and, consequently, highly significant. The ratio found by dividing the difference between the means by the standard error of the difference was 34.599.

American Council on Education Psychological Examination

A comparison of the test scores on the American Council on Education Psychological Examination was made for the upper part of the graduating group and the weak students from the drop-out group. Girls from the selected graduating group were found in all class intervals of the percentile ranks, but the greatest proportion was found in the highest class interval. Girls from the drop-out group also were found in all levels of percentile ranks except the 90th and above. However, below the 10th percentile there were only 2 students from the upper half of the graduating group while there were 45 girls from the drop-out group who experienced academic difficulty. On the other extreme, 32 of the graduating group were at the 90th percentile and above, and there were no

drop-outs in this level.

TABLE LVI

PERCENTILE RANKS ON AMERICAN COUNCIL ON EDUCATION PSYCHOLOGICAL
EXAMINATION FOR UPPER HALF OF GRADUATING GROUP AND DROP-
OUTS WHO EXPERIENCED ACADEMIC DIFFICULTIES

Percentile	:	Graduating Group	:	Drop-Out Group	:
90-99	:	32	:		:
80-89	:	24	:	2	:
70-79	:	29	:	2	:
60-69	:	20	:	5	:
50-59	:	27	:	9	:
40-49	:	17	:	3	:
30-39	:	9	:	9	:
20-29	:	13	:	15	:
10-19	:	5	:	20	:
0-9	:	2	:	45	:
Total	:	178	:	110	:

The special group of drop-outs was concentrated below the 10th percentile of test scores, and the graduating group was concentrated at the 90th percentile and above. The 80 drop-out students below the 30th percentile represented 73 per cent of the students who withdrew because of academic difficulty. As a contrast at the upper levels, the 85 students of the special graduating group at the 70th percentile or above represented 48 per cent of the upper half of the graduating group.

The median local percentile rank on the American Council on Education Psychological Examination for the special group of the graduating students was 67.5. The median percentile rank on the same examination for the special group of drop-outs was 14.5. This further shows how the two groups clustered at the extreme limits on the examination.

The mean percentile rank on the psychological examination for the upper 178 members of the graduating group was 64.3, while the mean percentile rank for the 110 drop-out students who experienced academic difficulty was 22.1 on the same examination. The difference of 42.2 between the means on the examination for the two groups was highly significant. The ratio found by dividing the difference between the means by the standard error of the difference was 15.596. This difference was so great between the students who were successful in college and those who were unsuccessful that it shows that the test does have some predictive value.

Barrett-Ryan-Schrammel English Test

A comparison of the test scores on the Barrett-Ryan-Schrammel English Test was also made for the same group of 178 good students from the graduating group and the 110 weak students from the drop-out group. More than half of the graduating group were at the 70th percentile or above while only 1 student from the drop-out group was at the 70th percentile or above. Approximately two-thirds of the drop-outs were below the 30th percentile on the English test.

The median percentile rank of the 178 graduating students on the English test was 72.4. For the 110 drop-out students, the median percentile rank was 21.7. The median percentile ranks for both the graduating

TABLE LVII

DISTRIBUTION OF PERCENTILE RANKS ON BARRETT-RYAN-SCHRAMMEL
ENGLISH TEST FOR UPPER HALF OF GRADUATING GROUP AND
DROP-OUTS WHO EXPERIENCED ACADEMIC DIFFICULTIES

Percentile	:	Graduating Group	:	Drop-Out Group	:
90-99	:	36	:		:
80-89	:	38	:		:
70-79	:	21	:	1	:
60-69	:	17	:	1	:
50-59	:	20	:	6	:
40-49	:	9	:	14	:
30-39	:	19	:	15	:
20-29	:	8	:	23	:
10-19	:	5	:	20	:
0-9	:	5	:	30	:
Total	:	178	:	110	:

and drop-out groups were higher on the English test than the median percentile ranks on the American Council on Education Psychological Examination.

The mean percentile rank for the upper half of the graduating group on the English test was 65.2. The mean percentile rank on the same test for the 110 drop-out students who had academic difficulty was 23.6. The mean percentile ranks on the English test for both the special graduating and drop-out groups was slightly higher than the mean percentile ranks of the same group on the psychological examination.

The difference of 41.6 between the means for the two groups greatly exceeded the 1 per cent level of significance. The ratio found by dividing the difference between the means by the standard error of the difference was 16.558. This ratio is slightly higher than the one that was found for the psychological examination. This would indicate that the English test also had some predictive value in identifying those students who drop out because of academic difficulty.

Summary of Quality-Point Ratios and Test
Scores of Drop-Out Group

Students with high quality-point ratios and students with low quality-point ratios were in the drop-out group. The median and mean quality-point ratios were below the median and mean ratios for the graduating group.

Students from all levels of percentile ranks on the American Council on Education Psychological Examination and the Barrett-Ryan-Schrammel English Test withdrew from school. However, the larger proportions were concentrated at the lower percentiles. Both the median and mean percentile ranks on both the tests were greatly below the median and mean percentile ranks on the same tests for the graduating group.

The relationship, or r , for the scores in the psychological examination and the total quality-point ratios for the drop-out group was higher than the relationship of scores on the same test to the quality-point ratios for the graduating group.

A special comparison of the 178 girls in the graduating group who made the highest averages on their four years of college work and of the 110 drop-outs who withdrew because of academic difficulty revealed a significant difference in both test scores and quality-point ratios for the

two groups. Statistically, the difference between the means of the two groups on their quality-point ratios and their percentile ranks on the psychological and English tests were highly significant. The difference was greater for the English test than for the psychological test.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study was made in an attempt to find the relationship of certain background factors to college success, relationship of freshman standardized tests to college success, and the factors which influence persistence in college. The group of students who entered Woman's College of the University of North Carolina, Greensboro, as freshmen in 1943 were studied for the length of time they remained in school whether they were graduated four years after entrance or whether they withdrew. The graduating group was made up of 321 girls, and the drop-out group was made up of 304 girls.

Approximately 60 per cent of the graduating group chose a major subject that led to a Bachelor of Arts degree, and 40 per cent of the graduating group chose a major subject that led to a Bachelor of Science degree.

Approximately 49 per cent of the beginning class withdrew from college before graduation. The students who withdrew before completing one semester represented 2 per cent of the beginning class. By the end of the freshman year, 54 per cent of the drop-out group had withdrawn. By the end of the sophomore year, 95 per cent of the drop-out group had withdrawn from college.

Approximately one-third of the drop-out group was asked to withdraw from school because of their academic records. An additional one-third of the group transferred to other schools. Other reasons for

withdrawal were marriage, nurses' training, health, further academic difficulties, work, and dissatisfaction.

Summary of Findings

Background Factors

Age of Students at Entrance.--The ages at entrance for both the graduating and drop-out groups clustered around 17 and 18 years. There was a tendency for the ages of the drop-out group with a median of 17.6 years to be somewhat lower than the ages of the graduating group with a median age of 18.4 years. For the extreme cases, however, the drop-outs had a larger proportion of the older students than the graduating group. It was found that age at entrance of the graduating group did not have a significant relationship with college success, as measured by quality-point ratios, when the chi-square (χ^2) test of independence was applied.

Religious Preference and Church Membership.--The graduating and drop-out groups differed little with regard to religious preference and church membership. More than 99 per cent of both groups expressed a religious preference and 94 per cent of the graduating group and 93 per cent of the drop-out group were church members.

Birthplace of Students.--There was a tendency for more drop-outs to have birthplaces in other states since 21 per cent of the graduating group and 28 per cent of the drop-out group were born outside of North Carolina. There were no foreign-born students in either group. Some of the departments within the graduating group which had a large proportion of students with birthplaces in other states were social science with 38 per cent and physical education and art and music with 33 per cent each.

Marital Status of Students.--Only 4 per cent of both the graduating and drop-out groups were married before they were graduated or withdrew from school. An additional 6 per cent of the drop-out group withdrew from school to become married.

Size of Family.--The size of the families of both groups were very nearly the same since approximately three-fourths of the students in both groups represented homes of 3 or fewer children. There was a tendency for the number of children in the families of the drop-out group with a median of 2.9 children to be somewhat lower than the number of children in the families of the graduating group with a median of 3.0 children. There was also a tendency for more only children to be found in the drop-out group than in the graduating group, 20 and 17 per cent respectively. No significance of association was found to exist between the number of children in the family and success in college of the students in the graduating group as revealed by the chi-square (χ^2) test of independence.

Occupation of Father.--Approximately two-thirds of the girls in both the graduating and drop-out groups had fathers who were engaged in two classifications of occupations: (1) professional and managerial and (2) clerical and sales. The percentage of drop-outs whose fathers were engaged in professional and managerial occupations, 38 per cent, was greater than the percentage of the graduating group, 35 per cent, whose fathers were engaged in the same type of occupations. The graduating group with 30 per cent had a larger proportion of the fathers engaged in the clerical and sales occupations than did the drop-out group with 27 per cent. The occupations of the fathers of 17 per cent of the graduating

group and 14 per cent of the drop-out group were agricultural and kindred occupations. The occupations of the fathers of 6 per cent of the graduating group and 7 per cent of the drop-out group were unskilled. The fathers of the remaining members of both groups were engaged in skilled, service, miscellaneous, and semiskilled occupations.

The fathers of 33 per cent of the physical education majors and 29 per cent of the home economics majors were engaged in agricultural and kindred occupations. The fathers of 11 per cent of the physical education majors, 10 per cent of the secretarial administration majors, and 9 per cent of the English majors were engaged in unskilled occupations.

The chi-square (χ^2) test of independence showed no significance of association of the occupations of the fathers and the grades made in college by the students.

Education of Parents.--In both groups the percentage of college graduates was higher for the fathers than for the mothers, but the percentage who attended college was greater for the mothers than for the fathers. However, the proportion of parents who were college graduates or who attended college was higher for the graduating group than for the drop-out group.

The fathers of 27 per cent of the graduating group and 21 per cent of the drop-out group were college graduates. The fathers of 22 per cent of the graduating group and 21 per cent of the drop-out group attended college but were not graduated. The fathers of 50 per cent of the graduating group and 54 per cent of the drop-out group did not attend college. The educational level of 4 per cent of the fathers of the drop-outs was not given.

The fathers of 52 per cent of the English majors and 39 per cent of the art and music majors were college graduates.

The mothers of 26 per cent of the graduating group and 21 per cent of the drop-out group were college graduates. The mothers of 36 per cent of the graduating group and 25 per cent of the drop-out group attended college but were not graduated. The mothers of 39 per cent of the graduating group and 51 per cent of the drop-out group did not attend college. The educational level of 4 per cent of the mothers of the drop-outs was not given.

The mothers of 52 per cent of the English majors and 37 per cent of the education majors were college graduates.

No association was found to exist between the education of the fathers and success in college of the graduating group. The probability of non-association of the education of the mothers and the quality-point ratio of the graduating group for the work of the first two years was 5 to 10 per cent, but the probability of non-association with the other quality-point ratios was farther from significance.

Birthplace of Parents.--The largest proportion of the parents in both groups was born in North Carolina, although there was a tendency for the drop-outs to have a larger percentage of the parents with birthplaces in other states and in foreign countries. The fathers of 26 per cent of the graduating group and 30 per cent of the drop-out group were born in other states while the mothers of 27 per cent of the graduating group and 31 per cent of the drop-out group were born in other states. The number of parents who were born in foreign countries included the fathers of 2 per cent of the graduating group and 4 per cent of the drop-out group and

the mothers of 2 per cent of the graduating group and 3 per cent of the drop-out group.

The percentage of parents with out-of-state birthplaces was higher for certain departments than for others. The fathers of 42 per cent of the social science majors and 48 per cent of the foreign language majors were born in states other than North Carolina. The mothers of 43 per cent of the foreign language and 38 per cent of the social science majors were born in other states.

Marital Status of Parents.--Most of the parents of the students in both groups were living and were living together. The parents of only 4 per cent of the graduating group and 5 per cent of the drop-out group were separated or divorced. The fathers of 7 per cent of the graduating group and 9 per cent of the drop-out group were deceased when the students entered college. The mothers of 3 per cent of the graduating group and 4 per cent of the drop-out group were deceased when the students entered college.

Approximately half of the fathers who were deceased belonged to the girls in the secretarial administration department. The group of students who had lost one parent by death before they entered college included 17 per cent each of the English and physical education majors and 16 per cent each of the secretarial administration and education majors.

Size of Community.--The home communities of 35 per cent of the graduating group and 37 per cent of the drop-out group were classified as cities, while the communities of 38 per cent of the graduating group and 42 per cent of the drop-out group were classified as towns. Villages were claimed as home communities by 13 per cent of the graduating group

and 12 per cent of the drop-out group, and open country was the classification designated by 13 per cent of the graduating group and 10 per cent of the drop-out group. Therefore, a larger percentage of drop-outs came from cities and towns than the graduating group, while the drop-outs had a smaller percentage of those students from the villages and country than did the graduating group.

A study of the departmental majors within the graduating group showed that half of the girls in the following departments lived in cities: art and music, foreign language, social science, and B. S. music. All the foreign language majors indicated that they lived in either a city or a town. Approximately half of the physical education and secretarial administration majors lived in towns. Approximately 21 per cent of both the education and home economics majors and 22 per cent of the physical education majors lived in villages. An additional 21 per cent of the education and 22 per cent of the physical education majors lived in the country.

No association was found to exist between the size of the home community and the success in college of the members of the graduating group.

Size of High School Graduating Class.--While both groups came from high school graduating classes of practically the same size, there was a slight tendency for the drop-outs to represent the smaller classes. Approximately 34 per cent of the graduating group and 36 per cent of the drop-out group were graduated from high schools in classes of 50 or fewer persons. The girls who were graduated from high schools in classes of 100 or fewer persons made up 55 per cent of the graduating group and 56 per cent of the drop-out group.

Less than half of the girls in the following departments of the graduating group came from the high school graduating classes of 100 or fewer persons: art and music, social science, foreign language, and B. S. music.

The chi-square (χ^2) test of independence showed a probability of non-association of 2 to 5 per cent for the size of the high school graduating classes of the members of the graduating group and the quality-point ratios for their work of the four years, and 10 to 20 per cent for the work of the last two years. However, the probability of association of the size of the high school graduating class and the quality-point ratios for the work of the first two years was farther from significance.

Home States of Students.--More of the out-of-state students in the beginning class withdrew than remained in school. Coming from homes in states other than North Carolina were 12 per cent of the graduating group and 15 per cent of the drop-out group.

All the English majors were from homes in North Carolina. Coming from other states were 28 per cent of the social science majors, 22 per cent of the physical education majors, but only 6 per cent of the secretarial administration and 8 per cent of the home economics majors.

No significance of association was found to exist between the quality-point ratios and the fact that a girl lived inside or outside of North Carolina.

Residence During College.---Approximately 90 per cent of both the graduating and drop-out groups lived in college dormitories or residence halls during their entire stay in college. The students who lived in town made up 5 per cent of the graduating group and 8 per cent of the

drop-out group, with the remainder of both groups dividing their time between the residence halls and town.

From the graduating group, all the art and music, education, foreign language, and physical education majors lived in college residence halls for four years. Approximately 16 per cent of the home economics majors lived in town with their families or close relatives for four years.

Change of Major Subject.--Each girl in both groups indicated a choice of major subject when she entered school. Approximately 58 per cent of the graduating group kept the same major subject for four years with 1 change being made by 28 per cent, 2 changes by 12 per cent, and 3 changes by 2 per cent.

No student in the group that was graduated with a B. S. degree in music changed her major subject. One change of major subject was made by 45 per cent of both the social science and education majors; two changes were made by 29 per cent of the foreign language majors, 18 per cent of education majors, and 17 per cent of both English and art and music majors.

The probability of non-association of stability of choice of major subject to college success was 1 to 2 per cent when measured by quality-point ratios for the first two years, 2 to 5 per cent for the work of the four years, and 30 to 50 per cent for the work of the last two years.

Summary of Background Factors

A study of the whole group showed that the students in the beginning class were very much alike in the following background factors: age at entrance, religious preference and church membership, birthplaces in North Carolina, being unmarried, parents with birthplaces in North

Carolina, parents living and living together, residence in North Carolina, and living in college residence halls. There was more variation in certain other factors, but a majority had one or two brothers or sisters, lived in cities and towns, and came from high school graduating classes of fewer than 100 persons. The educational and occupational levels of the parents were varied.

A comparison of the graduating and drop-out groups showed that there was little difference between the groups in regard to the background factors which were considered in this study. In regard to the following factors there was practically no difference between the two groups: age at entrance, religious preference and church membership, number of married students, size of average family, percentage of fathers engaged in skilled, semiskilled, and unskilled occupations.

The following factors were found in larger proportions for the graduating group than for the drop-out group: fathers engaged in clerical and sales occupations, parents who were graduated from college or even attended college, homes in villages and open country, number of students living in college residence halls during their stay in college.

On the following points, the percentage of drop-outs exceeded slightly the percentage of the graduating group: birthplaces outside of North Carolina; number of only children; fathers having professional and managerial occupations; parents with birthplaces in other states and foreign countries; parents who were deceased, divorced or separated; homes in cities and towns; number from high school graduating classes of 50 or fewer persons; number of out-of-state students. The actual differences in terms of percentages seem quite small.

A comparison of the A. B. and B. S. students showed that while the A. B. students made up 60 per cent of the graduating group they had an even larger percentage of students within certain classifications of some of the background factors. The number of A. B. students exceeded their proportion of the graduating group in the following classifications: number of Jewish students, students with birthplaces in states other than North Carolina, those from homes where there were two or fewer children, students whose fathers were engaged in the professional and managerial occupations, those whose parents had out-of-state birthplaces, students from cities and towns, those from high school graduating classes of more than 200 persons, number of out-of-state students, and changes of major subjects.

The B. S. students, making up 40 per cent of the graduating group, exceeded their proportion of the whole group in the following classifications: students from homes with the largest number of children, those whose fathers were deceased, students from high school graduating classes of 50 or fewer persons, those who lived in town during their four years of college.

There seemed to be little difference in the ages of the students, number of married students, and the education of the parents for the A. B. and B. S. groups.

The chi-square (χ^2) test of independence was used to reveal the association or non-association of nine background factors of the graduating group with their quality-point ratios. The background factor of the graduating group for which there was found the highest probability of association was the stability of choice of major with the quality-point ratios for the work of the first two years and for the work of the four years.

The next most significant probability was for the size of the high school graduating class and the quality-point ratios for the four years. These two factors did not show significance of association when other quality-point ratios were used. The education of the mothers approached significance with the quality-point ratios for the first two years but not for the other periods of time.

Other background factors to which the chi-square test was applied did not approach a significant level of association with college success. These were: age of students at entrance, number of children in family, occupations of fathers, education of fathers, size of community, and in-state or out-of-state residence.

Statistically there was little association of background factors and college success, as measured by quality-point ratios. These findings do not rule out the possibility that there may be association with combinations of these background factors, but no way was found to measure their combined influence.

Analysis of Quality-Point Ratios

The median quality-point ratios for the graduating group were 2.51 for the work of the four years, 2.27 for the first two years, and 2.78 for the last two years. The mean quality-point ratios for the graduating group were 2.62 for the four years, 2.36 for the first two years, and 2.81 for the last two years. There was a significant difference between the means of the quality-point ratios for the first two and the last two years of college work for the members of the graduating group.

There was not a significant difference between the means of the

quality-point ratios for the 321 members of the graduating group and the 215 members of that group who took the French test.

The mean and median quality-point ratios for the last two years were higher for the A. B. students than for the B. S. students, but there was not a significant difference between the means for the two groups.

The foreign language and English majors made the highest median quality-point ratios for the work of the last two years, and the foreign language and B. S. music majors made the highest mean quality-point ratios for the last two years.

The median quality-point ratio for the drop-out group based on the length of time they remained in college was 1.75 while the mean quality-point ratio was 1.83.

A special comparison was made of the 110 students who withdrew from college because of academic difficulties and the 178 girls from the graduating group in the median quality-point ratio class and above. The ratios for the 110 drop-outs ranged from 0.00 to 2.54, while the range for the 178 graduating students was 2.45 to 3.94. The median quality-point ratio for the weak drop-out students was 1.34, and the mean for the same group was 1.29. For the upper part of the graduating group the median quality-point ratio was 2.88, and the mean was 2.93. There was a significant difference between the means of the ratios for these two special groups.

Analysis of Test Scores

American Council on Education Psychological Examination.--The median percentile rank for the graduating group on the American Council

on Education Psychological Examination was 56.1, and the mean percentile rank was 55.1.

The median and mean percentile ranks for the A. B. students were higher than the median and mean percentile ranks for the whole graduating group and also higher than the corresponding measures for the B. S. group.

The girls in the following departments had higher median and mean percentile ranks on the psychological examination than the group as a whole: art and music, English, foreign language, science and mathematics, physical education, and secretarial administration. The social science majors had a mean percentile rank greater than the mean percentile rank for the graduating group, and the B. S. music majors had a median percentile rank above the median for the whole graduating group. The English and foreign language had the highest median and mean percentile ranks on the psychological examination, and the education and home economics majors had the lowest median and mean percentile ranks.

The median percentile rank of the drop-out group on the American Council on Education Psychological Examination was 35.4, and the mean percentile rank was 42.8.

A comparison of the best students in the graduating group and the weak students in the drop-out group showed a median percentile rank on the psychological examination of 67.5 for the graduating group and 14.5 for the drop-outs. The mean percentile rank on the same test was 64.3 for the upper part of the graduating group and 22.1 for the drop-outs who experienced academic difficulties. There was a significant difference between the means for the two special groups.

Barrett-Ryan-Schrammel English Test.--On the Barrett-Ryan-Schrammel English Test the median percentile rank was 59.1 for the graduating group, and the mean was 57.2.

Both the median and mean percentile ranks for the A. B. students were higher than the corresponding measures for the whole graduating group or for the B. S. group.

The median and mean percentile ranks on the English test were higher for the following departments than for the whole graduating group: B. S. music, art and music, English, foreign language, and science and mathematics. The median percentile rank of the social science majors was also higher than the median percentile rank for the graduating group. The English and foreign language majors had the highest median percentile ranks, and the B. S. music and foreign language majors had the highest mean percentile ranks. The education and home economics majors had the lowest median and mean percentile ranks.

The median percentile rank for the drop-out group was 39.5, and the mean percentile rank was 43.6.

The median percentile rank on the Barrett-Ryan-Schrammel English Test was 72.4 for the 178 in the upper half of the graduating group and 21.7 for the weak 110 drop-outs. The mean percentile on the English test was 65.2 for the upper half of the graduating group and 23.6 for the weak members of the drop-out group. There was a significant difference between the means for the two groups.

American Council on Education Cooperative French Test.--The 215 girls from the graduating group who took the American Council on Education Cooperative French Test had a median percentile rank of 58.4 and a

mean percentile rank of 54.4.

Relation of Test Scores to Quality-Point Ratios

The relationship between each of the three freshman tests and the quality-point ratios for four years, the first two years, and the last two years was significant at the 1 per cent level. The r for each test and the ratios for the first two years was the highest, with that of the four years being next, and the last two years being the lowest.

The relationship of the psychological examination and the quality-point ratios was .44 for the work of the four years, .48 for the first two years, and .34 for the last two years. The relationship of the English test and quality-point ratios was .47 for the four years, .48 for the first two years, and .39 for the last two years. The relationship of the French test and quality-point ratios was .44 for the work of the four years, .46 for the first two years, and .32 for the last two years.

The predictive value of the relationships in terms of the coefficient of forecasting efficiency was 13 per cent for each of the tests and the quality-point ratios for the work of the first two years. The predictive value of the relationship of the psychological and French tests and quality-point ratios was 8 per cent for the work of the four years and 5 per cent for the work of the last two years. The dependability or predictive value of the relationship of the English test and quality-point ratios was 13 per cent for the work of the four years and 8 per cent for the work of the last two years.

The relationships of both the psychological and English tests and the quality-point ratios for the work of the last two years were significant

at the 1 per cent level for the A. B. and B. S. groups. Also significant were the relationships of the psychological examination and the quality-point ratios for the work of the last two years for the English, social science, home economics, and secretarial administration majors. The relationships of the English test and the quality-point ratios for the work of the last two years were significant for the foreign language, social science, and secretarial administration majors.

The relationship of the psychological examination and the quality-point ratios of the drop-out group was .54, which was a higher relationship than was found for the graduating group.

Conclusions

For the group studied at Woman's College, association was found to exist between success in college, as measured by quality-point ratios, and the stability of choice of major, and the size of the high school graduating class. The probability of association of the education of the mothers approached significance. However, the association for these three factors was not consistently found with the ratios for the work of four years, of the first two years, and of the last two years.

The background factors of the girls within each department did not follow definite patterns, although there were differences between them in regard to certain of the factors. Statistically, the background factors showed no association with the quality of work done by the girls in the A. B. and B. S. departments as two separate groups during the last two years of college work.

There was a positive relationship between the freshman test scores and the grades of the members of the graduating group included in this

study. The degree of relationship was higher for the work of the first two years in college than for other periods of time considered, which indicates that the degree of relationship decreased as a girl remained in college longer. The test scores were more directly related to the work done in college by the girls in the B. S. departments than by the girls in the A. B. departments. The degree of relationship shown by the English test was slightly higher than that shown by the other two tests.

The relationships of the psychological and English tests with the quality-point ratios for the last two years were significant for certain departments and not for others. The r's for the secretarial administration majors greatly exceeded the required r's for significance for both tests, and the r's for the physical education majors were the farthest from significance. The smallness of the number of cases in certain departments required a high relationship for significance.

The relationships of the tests were high enough for the group studied to show that the tests do have some predictive value. However, a person with a low test score should understand that the low test score does not in itself mean that she will be a failure in college work.

The background factors of the graduating and drop-out groups varied from each other, but the differences were not great enough to state that certain background factors definitely caused persistence or lack of persistence in college.

The quality-point ratios and test scores made by the drop-out group varied greatly from those of the graduating group. More girls from the lower percentile ranks of the beginning class withdrew from school than remained to be graduated.

Recommendations

This study provides information which may be utilized as comparative data for future studies of the background characteristics, consistency, and trends of Woman's College student body. It also provides a basis for further evaluation of the effectiveness of the freshman tests.

In view of the significant relationship existing between the freshman test scores and the quality-point ratios of the group studied, the scores for each group taking the tests should be used to the greatest advantage in the guidance program of the college. Although the tests do not identify those students who will leave college before graduation, they should be used as additional information in determining which students need the most attention and guidance, especially in the first two years of college work.

If the raw scores made on the tests were kept for several years, a comprehensive study of several classes would seem desirable. This should provide valuable data for comparison with students in other colleges and as a basis for using the results of the tests in the guidance program of the college.

Comparison of the lower half of the graduating group with the drop-out students who experienced academic difficulties should provide further evidence concerning the discriminating ability of the tests.

A follow-up study of the students who transferred to other colleges is recommended, the study to include information concerning the types of schools to which they transferred, the major subjects they selected, and the length of time required for the completion of their work. Such a study should show the relationship between the records of the achievement of the

students at Woman's College and measures of success in the colleges to which they transferred.

The fact that a larger number of out-of-state students withdrew than were graduated suggests the desirability of a special study to show the extent to which they were represented in the group of students with academic difficulties, and other reasons for their withdrawal from college.

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APPENDIX

CHECK SHEET FOR WOMAN'S COLLEGE CLASS OF 1947

Name _____ Degree _____ Major _____

Home Address _____
City _____ State _____ County _____

Place of Birth _____ Date of Birth _____

Religious Preference _____ Member _____

Occupation of Father _____ Birthplace of Father _____

Occupation of Mother _____ Birthplace of Mother _____

Education of Father _____
Grade _____ High School _____ Attended College _____

Education of Mother _____
College Graduate _____ Grade _____ High School _____

_____ If father is deceased, state
Attended College _____ College Graduate _____

year _____. If mother is deceased, state year _____.

Size of family _____
No. of Brothers _____ No. of Sisters _____

If parents are divorced, separated, or remarried, please indicate _____

_____. Graduate of _____ High School

Date _____ Size of High School _____ Number in Graduating Class _____

_____. Type of Community: City _____ Town _____ Village _____

Open Country _____. Name 8 occupations which appeal to you _____

What course are you planning to take in college _____

Dormitory Student _____ Town Student _____ Dormitory and Town _____

Married? _____ When? _____

_____ Rating on American Council on Education Psychological
Examination.

_____ Rating on English Placement Test

_____ Rating on Cooperative Language Test

Number of Hours Completed _____ No. of Quality Points _____

Ratio _____ (Total) First 2 Years _____ Last 2 Years _____

Change of Major _____

Additional Information about Drop-Outs: _____

Date of Withdrawal _____ Reason _____

Had drop-out student chosen a vocation? _____